WAD 009282302
8/16/04 9/9/2004
4a

9/9/2004

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

RCRA Corrective Action Order Compliance Inspection Report

FILE COPY

Facility Name: Former Rhone Poulenc Marginal Way Facility

Facility EPA ID#: WAD 009282 2302

Facility Location: 9229 East Marginal Way
Seattle, WA

Facility Representatives: Peter Wold, President, RCI Environmental
Kurt Dressen, Project Engineer, RCI Environmental

Date of Inspection: August 18, 2004

Date of Report: September 9, 2004

Report Prepared by: Shawn Blocker, Shawn Blocker 9/9/04

Inspector(s): Shawn Blocker, Environmental Scientist
US Environmental Protection Agency
1200 Sixth Avenue, OCE-127
Seattle, WA 98101

Sylvia Burges, Environmental Engineer
US Environmental Protection Agency
1200 Sixth Avenue, OCE-127
Seattle, Wa 98101

Doc Thompson, Field Services
Manchester Laboratory
7411 Beach Drive East
Port Ochard, WA 98366

Authority:

The United States Environmental Protection Agency (EPA) performed this Corrective Action Order Compliance Inspection of groundwater extraction and treatment system in support of an Administrative Order On Consent issued persuant to section 3008 (h) of the Resource Conservation and Recovery Act (RCRA)("Order"). The Order is an agreement between the Respondents for the Former Rhone Poulenc, Inc., facility and the U.S. EPA. Specifically, the inspection was conducted to verify that the approved groundwater extraction and treatment

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading	
EX-1 Flow (Inst./Total)	gpm/gallons	3.70	11553774
EX-2 Flow (Inst./Total)	gpm/gallons	15.74	11553629
EX-3 Flow (Inst./Total)	gpm/gallons	0.00	11082635
Filter Influent Pressure	psi	6.0	
Lead GAC Influent Pressure	psi	30.0	
Lead GAC Effluent Pressure	psi	10.0	
REMOTE TOTALIZER		18.92	3211777

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	1051	18.88
Water Level – DM-8	Feet	1052	1.946
Water Level – MW-49	Feet	1052	-1.345

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

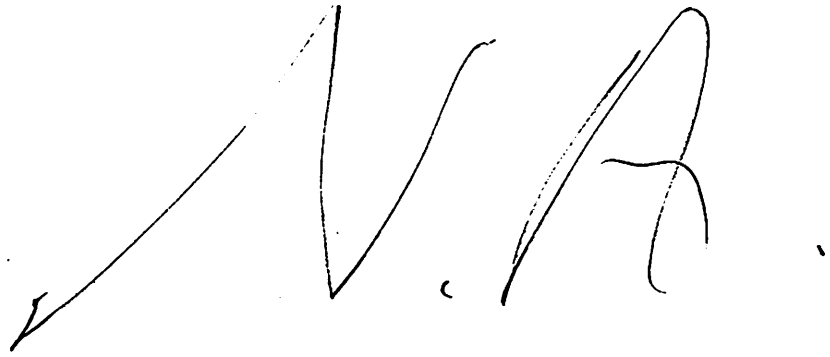
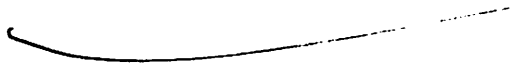
Samples Collected (Y/N): Y

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	5-26
Lead GAC Effluent	FOG, BTEX	5-26
Lag GAC Effluent	FOG, BTEX, pH	5-26

Date of Visit: 5-26-04

Field Representative (Print and Sign): JOHN AMBROSE

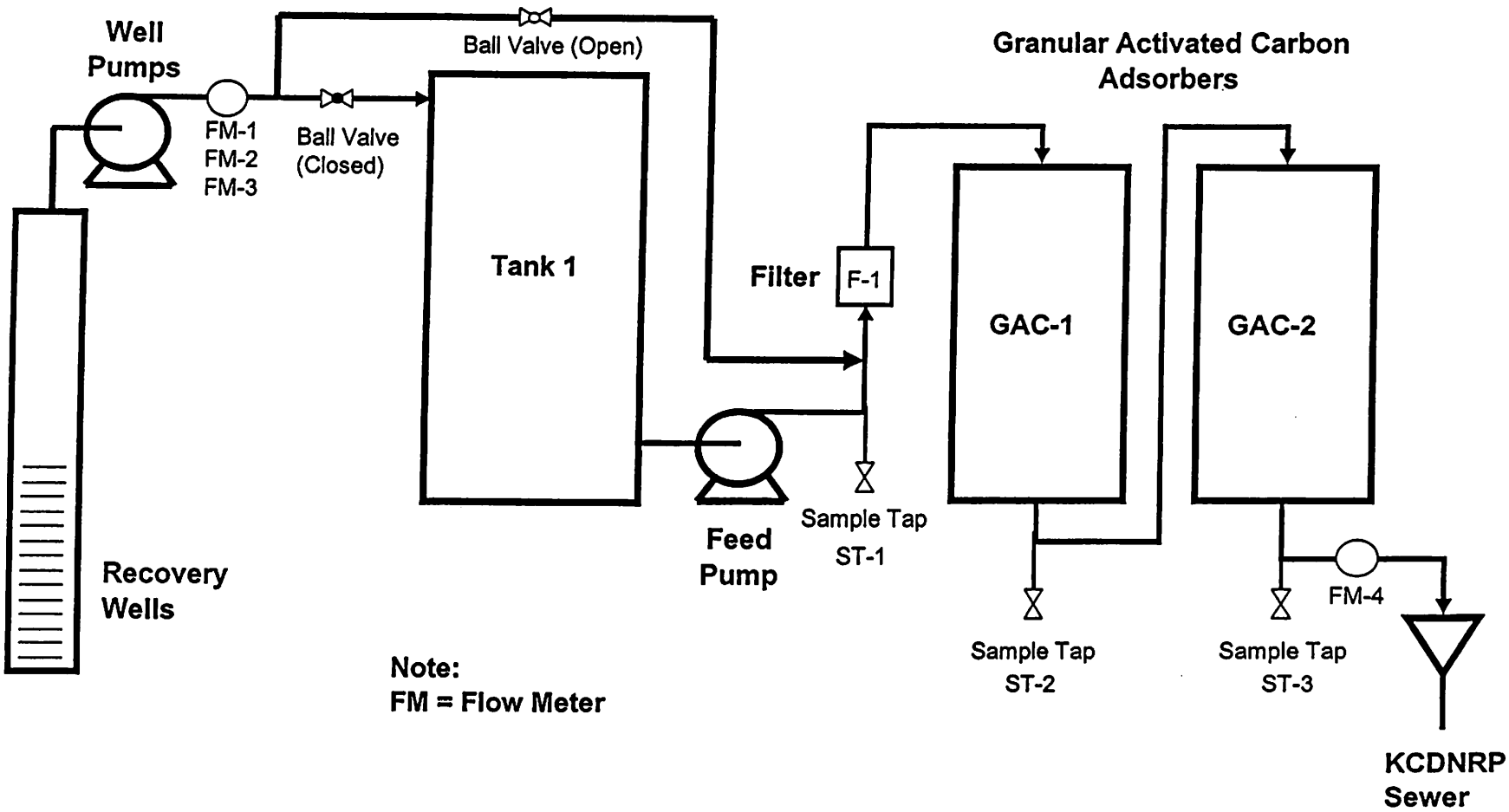
Maintenance Issues Resolution Form

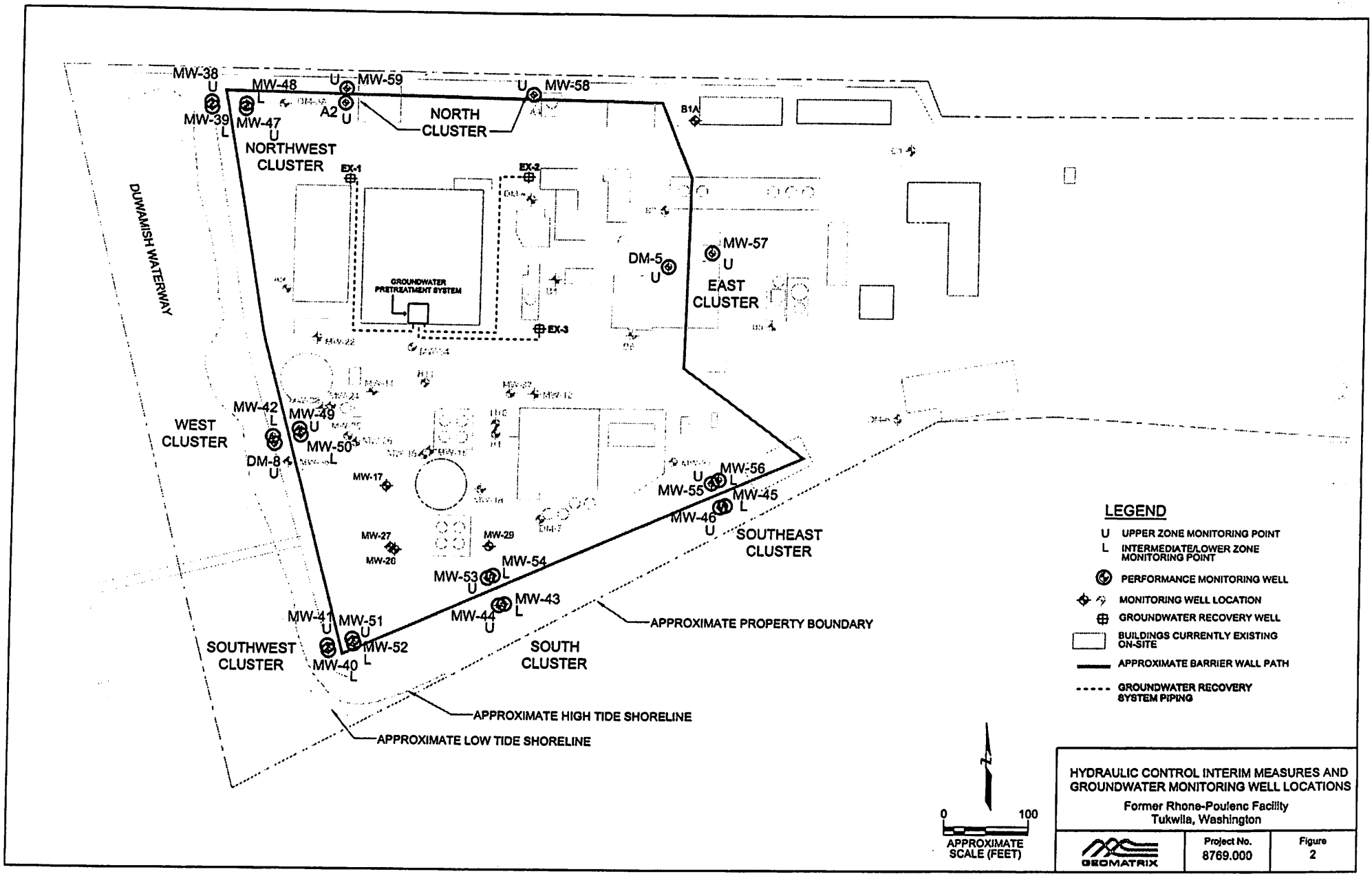
Maintenance Issue (Attach Supporting Information as Needed)

Resolution (Attach Supporting Information as Needed)


Responsible Party (Print and Sign): J. Imbrot

Date: 5.26

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	0 / 1567850
EX-2 Flow (Inst./Total)	gpm/gallons	0 / 1620279
EX-3 Flow (Inst./Total)	gpm/gallons	0 / 1084064
Filter Influent Pressure	psi	—
Lead GAC Influent Pressure	psi	—
Lead GAC Effluent Pressure	psi	—

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	930	0
Water Level – DM-8	Feet	930	1.358
Water Level – MW-49	Feet	930	-1.116

Data Downloaded (Y/N):_____ Data Converted to Excel (Y/N):_____

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	—
Lead GAC Effluent	FOG, BTEX	—
Lag GAC Effluent	FOG, BTEX, pH	—

Date of Visit: 6/2/09

Field Representative (Print and Sign): KURT PRESSEL / Kurt Pressel

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
System off - Install new pumps.
Resolution (Attach Supporting Information as Needed)
N/A

Responsible Party (Print and Sign): Kurt Petersen / Ken Dawson

Date: 6/2/09

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.
SYSTEM OFF WHEN ARRIVED / CYCLING

System Operation Measurements (Perform Weekly)

Item	Units	Reading	
EX-1 Flow (Inst./Total)	gpm/gallons	0.00	1585054
EX-2 Flow (Inst./Total)	gpm/gallons	0.00	1674812
EX-3 Flow (Inst./Total)	gpm/gallons	0.00	1085494
Filter Influent Pressure	psi Ø		
Lead GAC Influent Pressure	psi Ø		
Lead GAC Effluent Pressure	psi Ø		
TOTALIZER	GPM/GAL	0.01	4333

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	1129	.144
Water Level – DM-8	Feet	1130	.770
Water Level – MW-49	Feet	1130	- 0.838

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	
Lead GAC Effluent	FOG, BTEX	
Lag GAC Effluent	FOG, BTEX, pH	

Date of Visit: 6-11-04
Field Representative (Print and Sign): J. AMBROSE

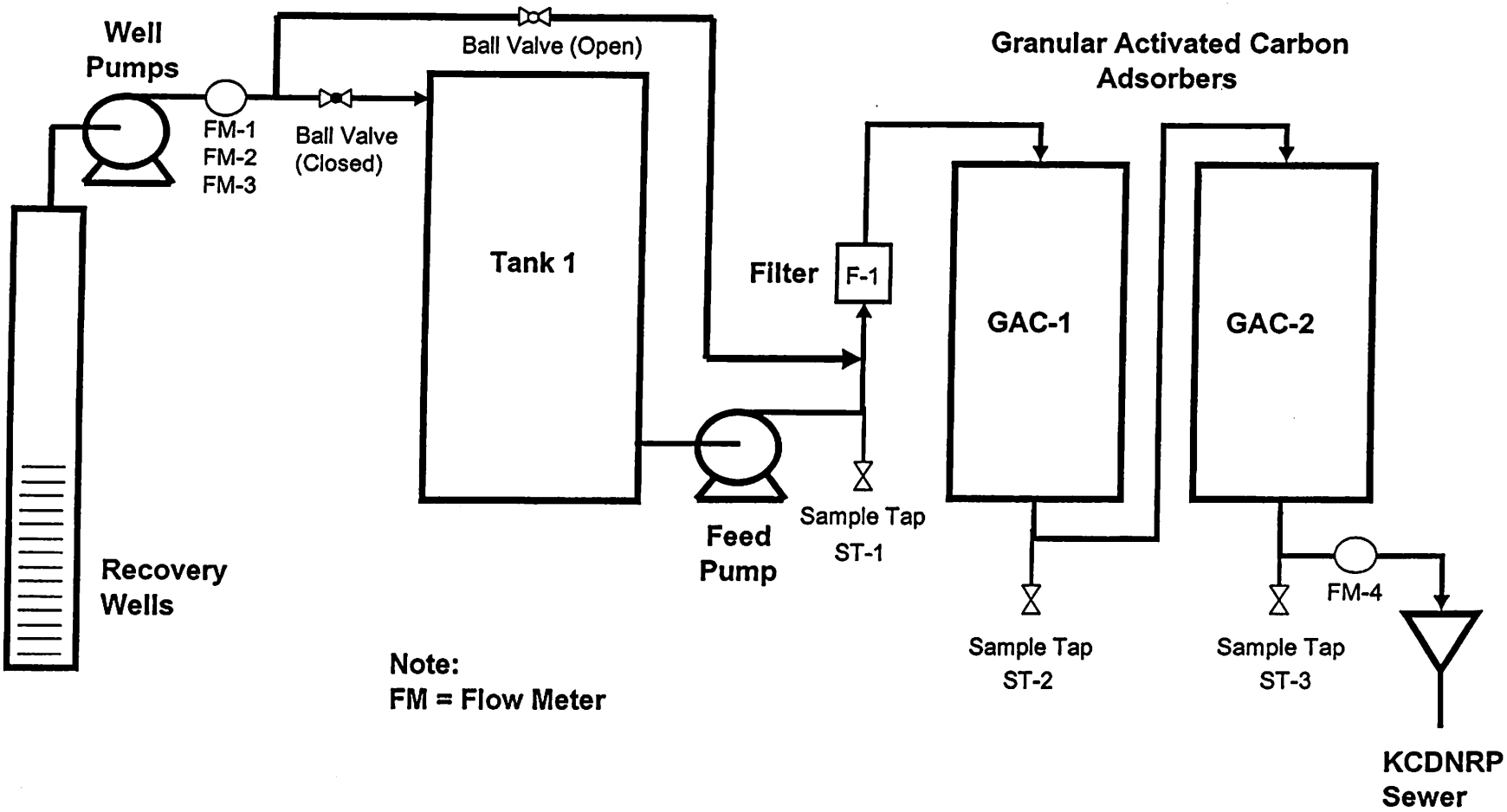
Maintenance Issues Resolution Form

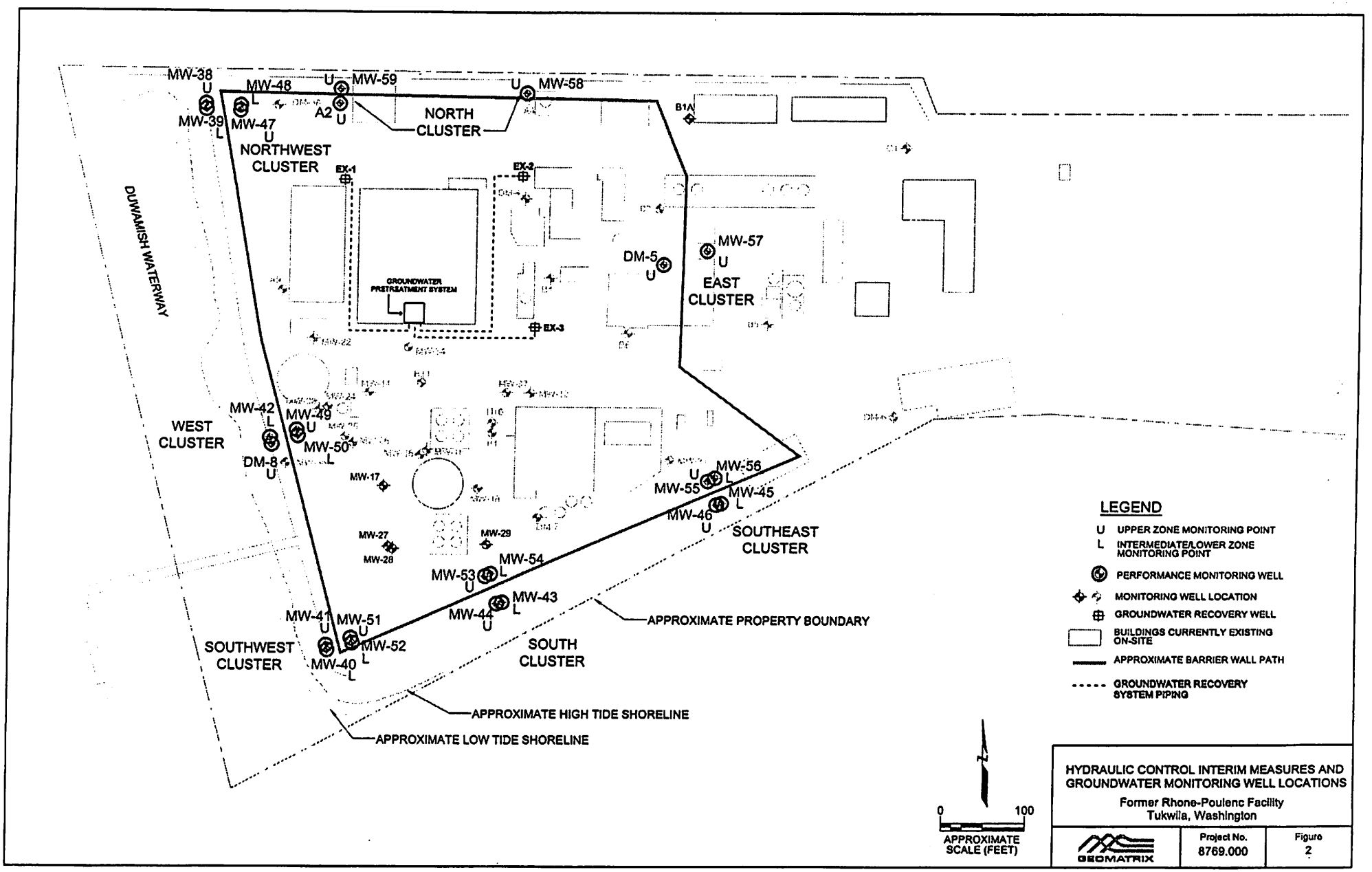
Maintenance Issue (Attach Supporting Information as Needed)
N.A.
Resolution (Attach Supporting Information as Needed)
N.A.

Responsible Party (Print and Sign): J. AMBROSO

Date: 6-16-04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

SYSTEM NOT RUNNING

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	000 / 1585062
EX-2 Flow (Inst./Total)	gpm/gallons	000 / 1674814
EX-3 Flow (Inst./Total)	gpm/gallons	000 / 1085494
Filter Influent Pressure	psi	0
Lead GAC Influent Pressure	psi	0
Lead GAC Effluent Pressure	psi	0

TOTALIZER 6PM 0 / 4333

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	1441	NA
Water Level – DM-8	Feet	1441	-0.428
Water Level – MW-49	Feet	1442	-0.888

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	
Lead GAC Effluent	FOG, BTEX	
Lag GAC Effluent	FOG, BTEX, pH	

Date of Visit: 6-16-04

Field Representative (Print and Sign): J. AMBROSO

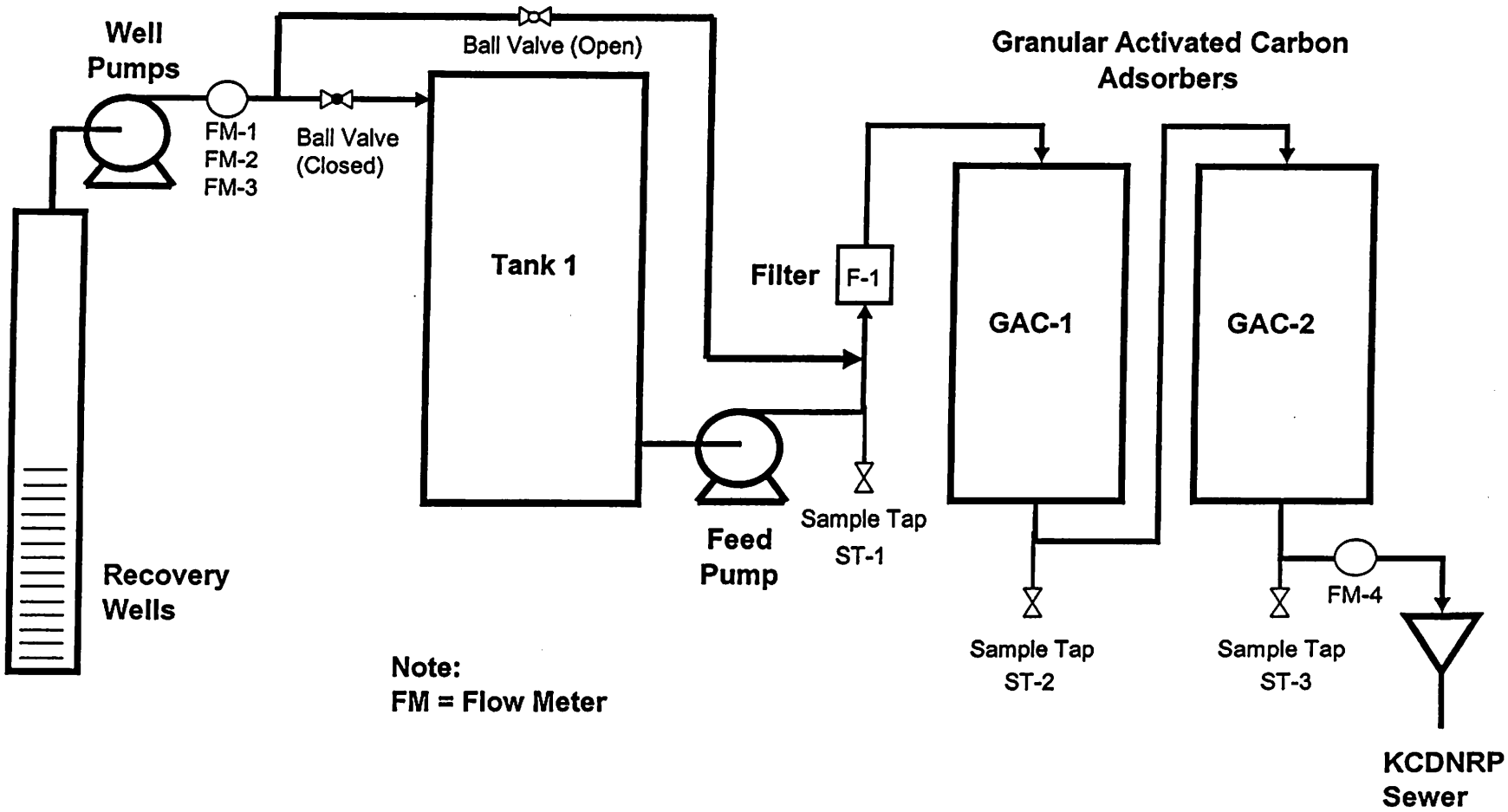
Maintenance Issues Resolution Form

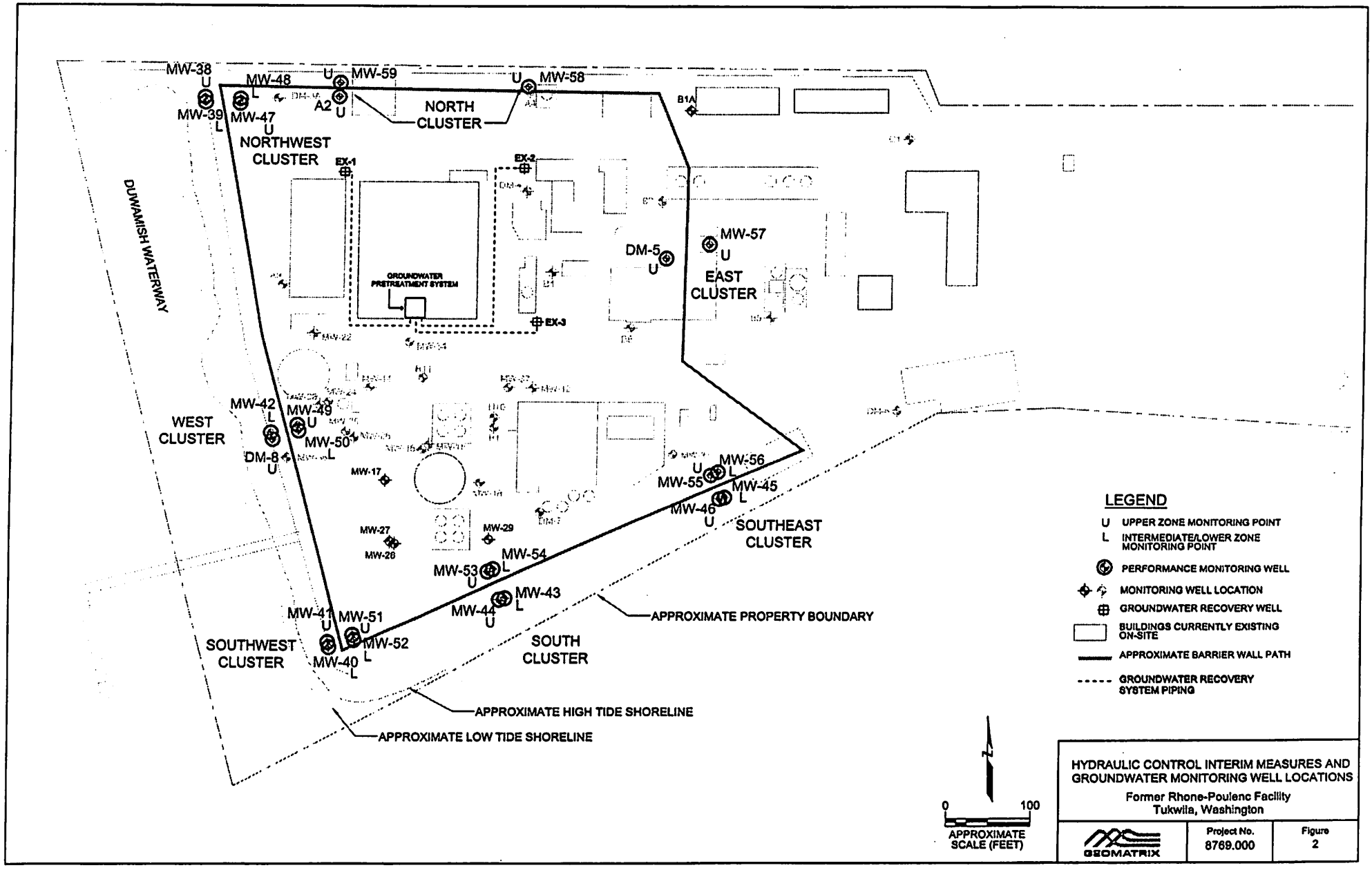
Maintenance Issue (Attach Supporting Information as Needed)
SYSTEM NOT RUNNING
Resolution (Attach Supporting Information as Needed)

Responsible Party (Print and Sign): J AMBROSO

Date: 6-16-04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

POWER FAILURE Jun 22 11:55

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	0.00 / 1585062
EX-2 Flow (Inst./Total)	gpm/gallons	0.00 / 1674815
EX-3 Flow (Inst./Total)	gpm/gallons	0.00 / 1085821
Filter Influent Pressure	psi	0
Lead GAC Influent Pressure	psi	0
Lead GAC Effluent Pressure	psi	0

TOTALIZER GPM/GAL. 13.8 / 63512

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	1119	.129
Water Level – DM-8	Feet	1619	1.221
Water Level – MW-49	Feet	1119	-.068

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	
Lead GAC Effluent	FOG, BTEX	
Lag GAC Effluent	FOG, BTEX, pH	

Date of Visit: 6-23-04

Field Representative (Print and Sign): J. Amboso

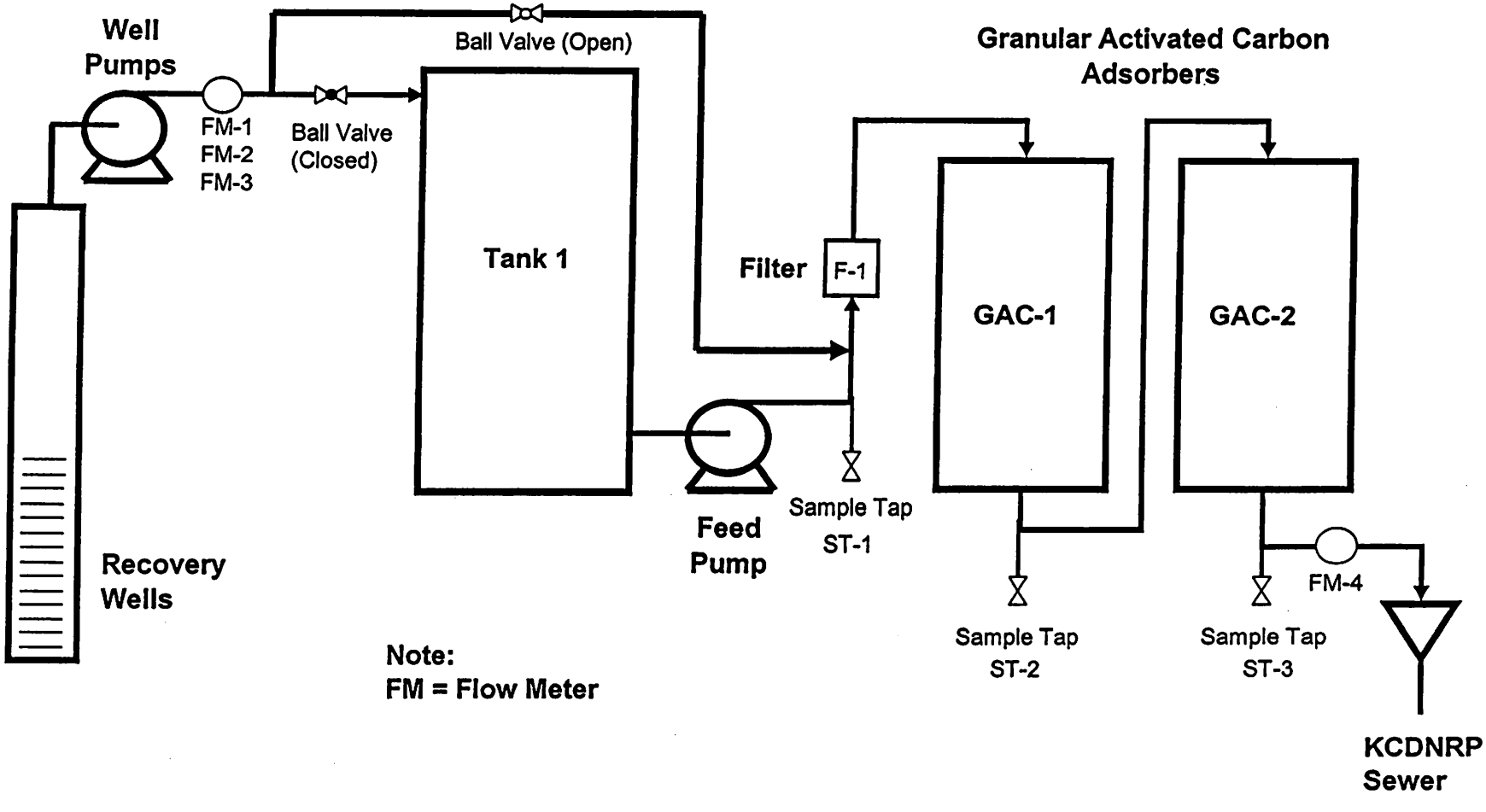
Maintenance Issues Resolution Form

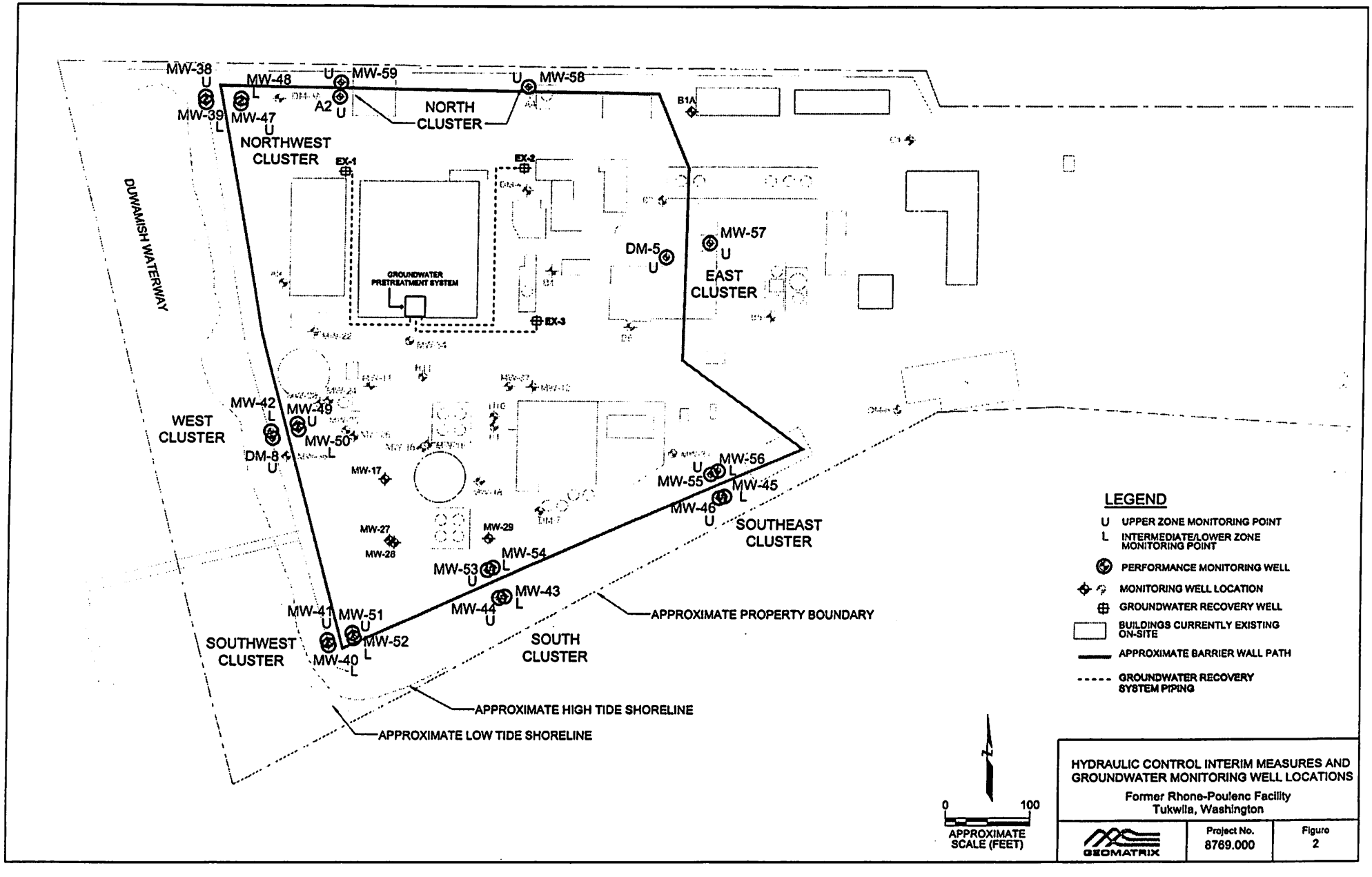
Maintenance Issue (Attach Supporting Information as Needed)
TOTALIZER READING FLOW BUT NO WATER RUNNING THRU IT
Resolution (Attach Supporting Information as Needed)
CHECK TOTALIZER

Responsible Party (Print and Sign): JOHN AMBROSE

Date: 6-23-04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	0.0 / 1816728
EX-2 Flow (Inst./Total)	gpm/gallons	0.0 / 1702039
EX-3 Flow (Inst./Total)	gpm/gallons	0.0 / 1136406
Filter Influent Pressure	psi	0.0
Lead GAC Influent Pressure	psi	0.0
Lead GAC Effluent Pressure	psi	0.0

TOTALIZER GAL 174429

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	1214	1.088
Water Level – DM-8	Feet	1215	-1.622
Water Level – MW-49	Feet	1215	-0.909

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): Y

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	6/30 1200
Lead GAC Effluent	FOG, BTEX	6/30 1208
Lag GAC Effluent	FOG, BTEX, pH	6/30

Date of Visit: 6-30-04

Field Representative (Print and Sign): JOHN AMBROSO

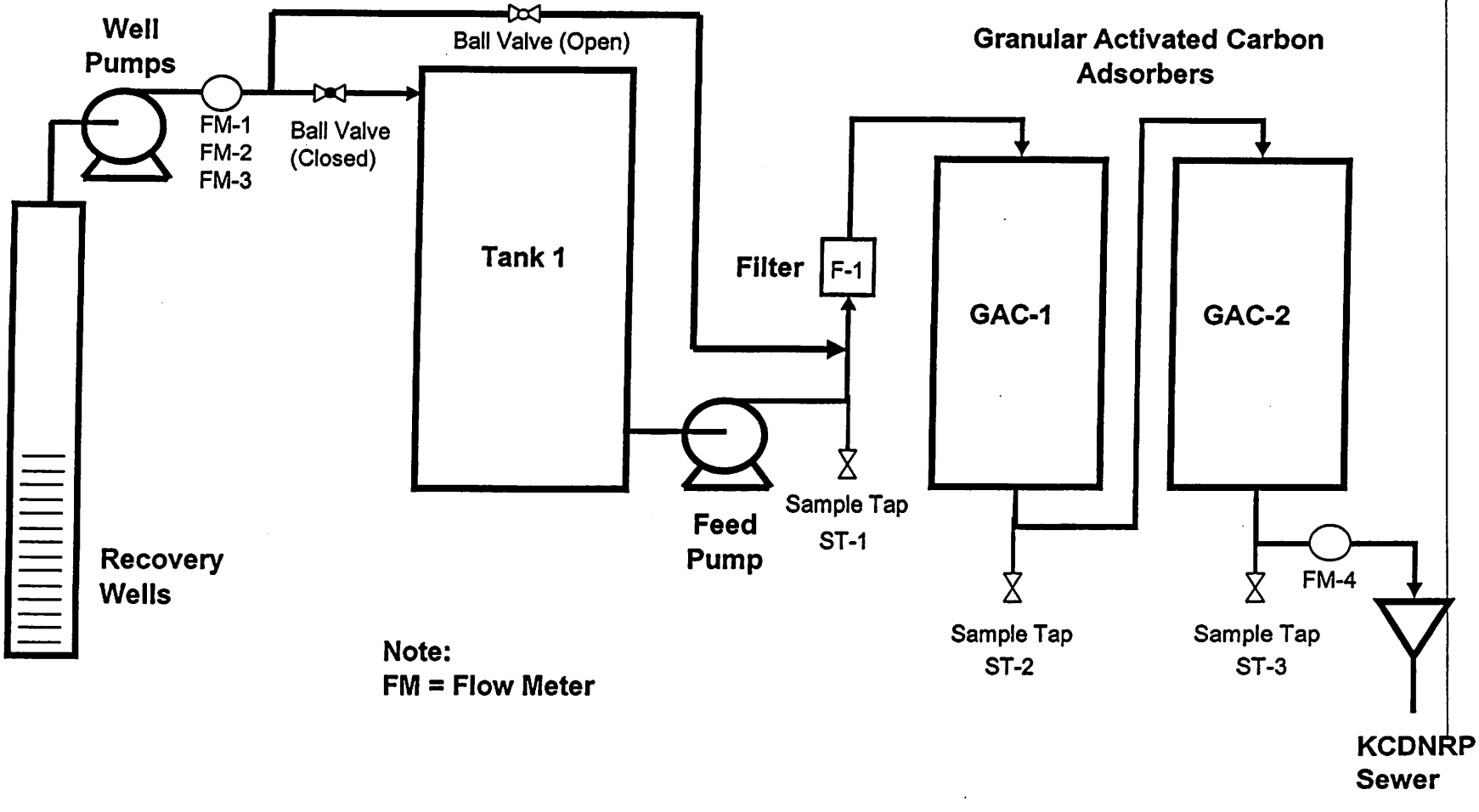
Maintenance Issues Resolution Form

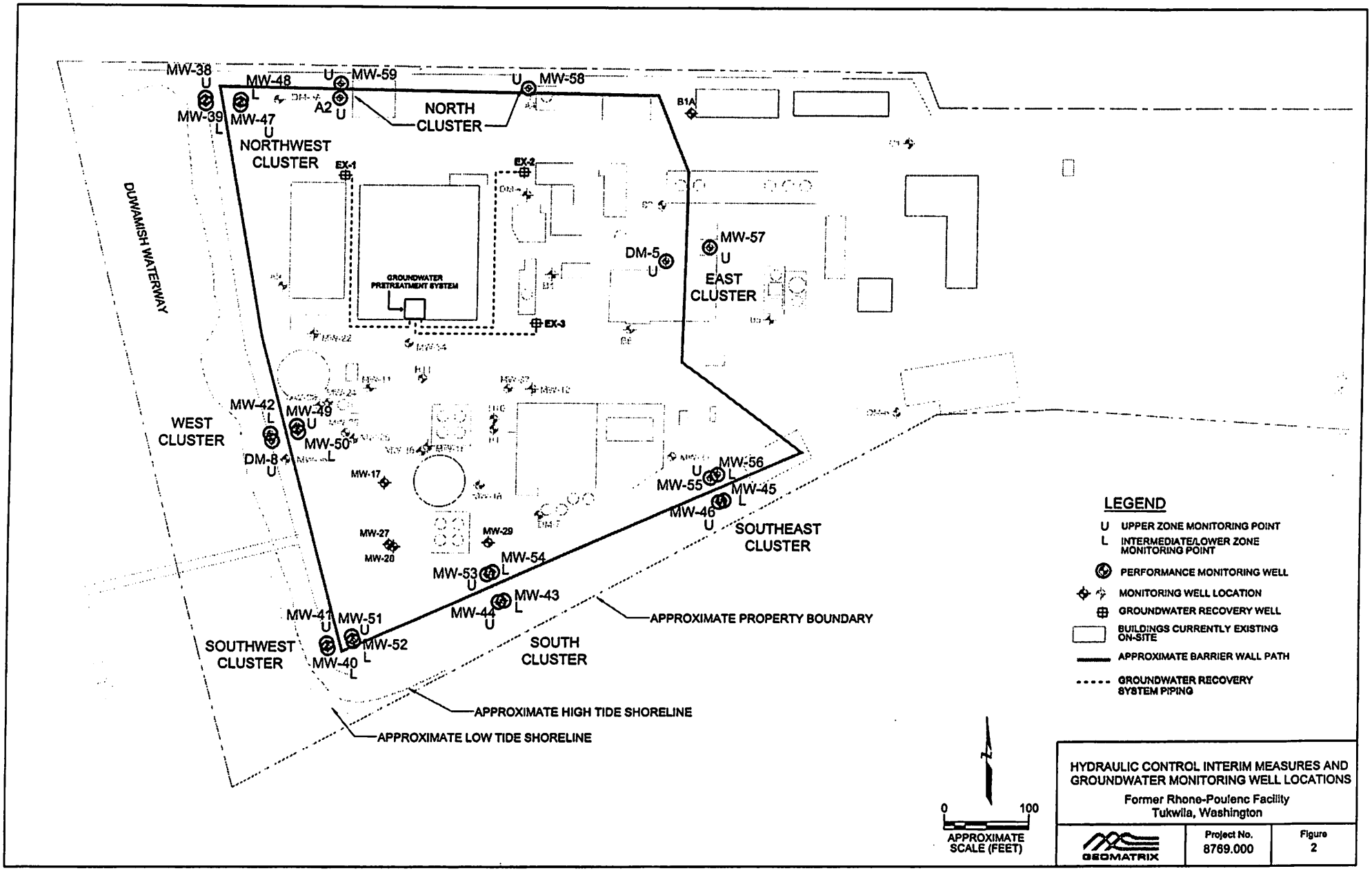
Maintenance Issue (Attach Supporting Information as Needed)
1.) WORKING ON SYSTEM EFFLUENT FLOAT SWITCHES (RELAY) 2.) (1st) PUMP ON SAMPLING WATER TANK NEEDS REPAIR AND IT LEAKS 3.) TOTALIZER NEEDS LOOKING AT
Resolution (Attach Supporting Information as Needed)
1.) WORKING ON IT 2.) CONTACT = (MAINT. PERSON) BURL 3.) JEAF OR DOUG

Responsible Party (Print and Sign): JOHN AMBROSE

Date: 6-30-04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX

Project No.	Figure
8769.000	2

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	—
Bag Filter	Y	—
GAC Units	Y	—
Pressure Gauges/Flow Meters	Y	—

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	10.56 / 1650827
EX-2 Flow (Inst./Total)	gpm/gallons	5.95 / 1721998
EX-3 Flow (Inst./Total)	gpm/gallons	17.09 / 1191146
Filter Influent Pressure	psi	10.0
Lead GAC Influent Pressure	psi	9.0
Lead GAC Effluent Pressure	psi	6.0

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm		
Water Level – DM-8	Feet	1405	0.417
Water Level – MW-49	Feet	1405	-1.345

OUTSIDE WALL
INSIDE WALL

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): —

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	N/A
Lead GAC Effluent	FOG, BTEX	N/A
Lag GAC Effluent	FOG, BTEX, pH	N/A

Date of Visit: 7/8/04

Field Representative (Print and Sign): [signature]

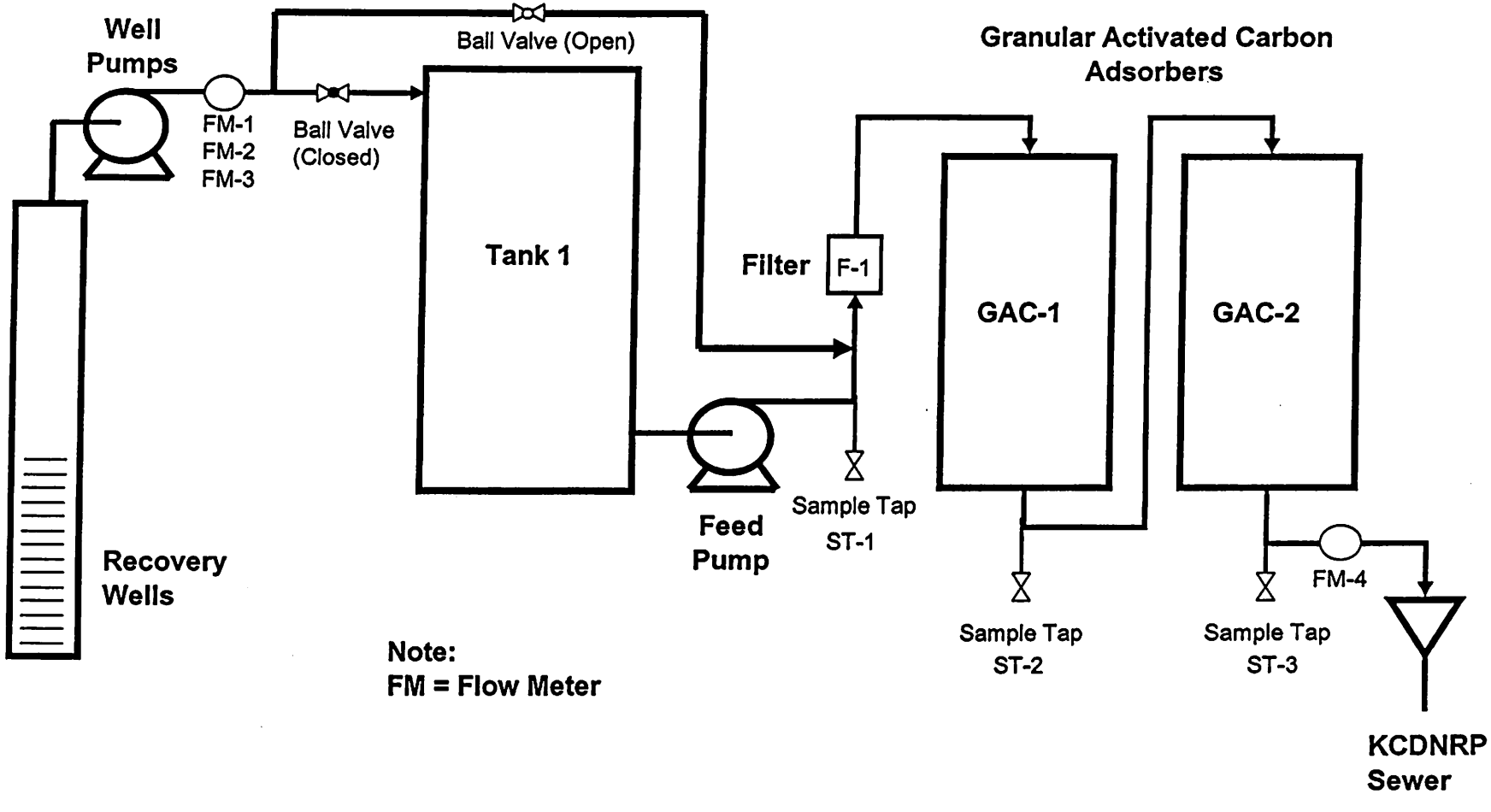
Maintenance Issues Resolution Form

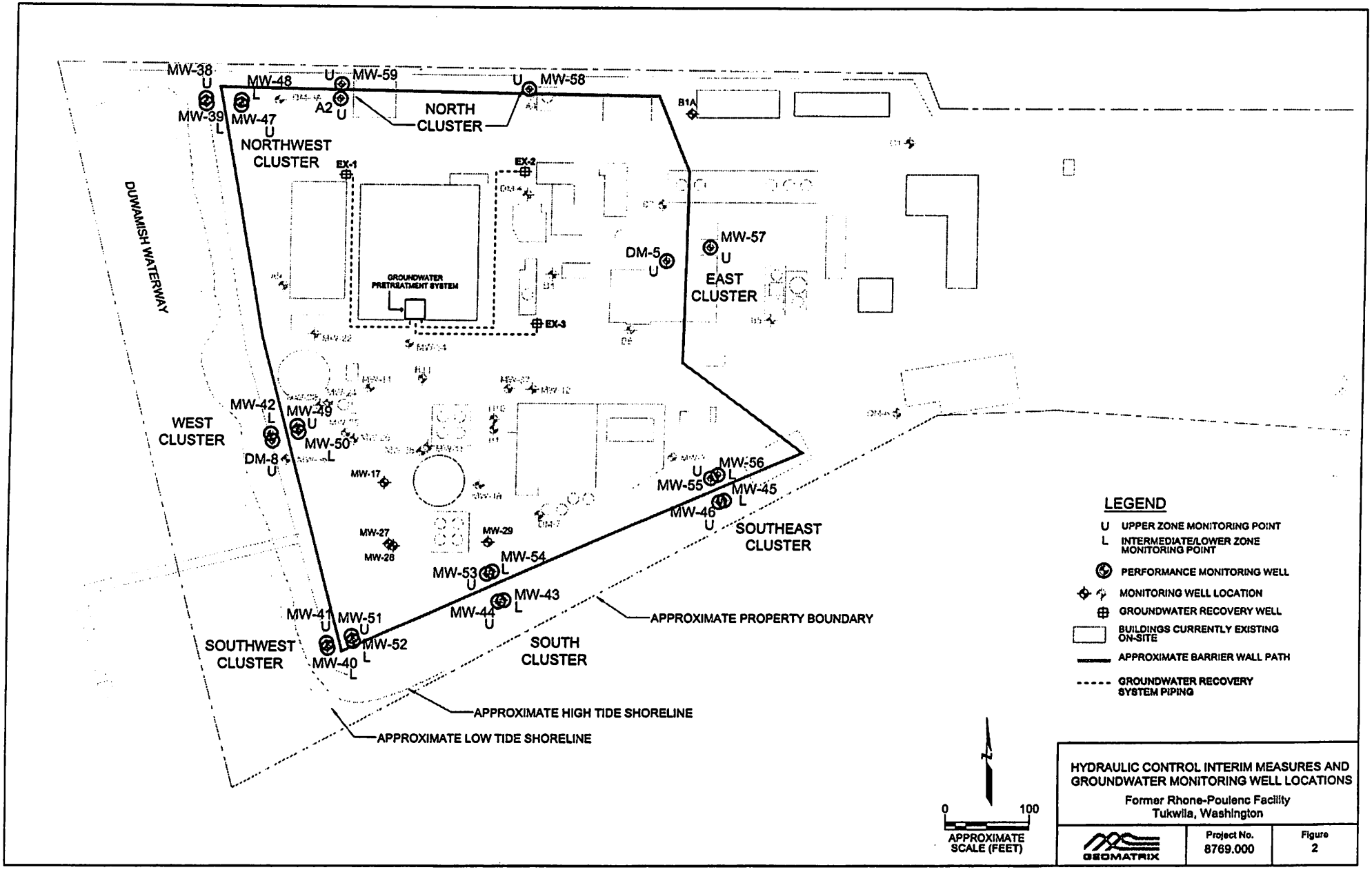
Maintenance Issue (Attach Supporting Information as Needed)
SAME AS 6/30/04
Resolution (Attach Supporting Information as Needed)
SAME AS 6/30/04

Responsible Party (Print and Sign): KURT DRESSEN/

Date: 7/8/04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

PRESSEN SHUT OFF SYSTEM

Treatment System Inspection Log ATO854

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

SYSTEM OFF 0854 7-16-04

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	— / 1753096
EX-2 Flow (Inst./Total)	gpm/gallons	— / 1780047
EX-3 Flow (Inst./Total)	gpm/gallons	— / 1357014
Filter Influent Pressure	psi	— NA
Lead GAC Influent Pressure	psi	— NA
Lead GAC Effluent Pressure	psi	— NA

TOTALIZER 608572

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	1045	0.129
Water Level – DM-8	Feet	1046	-1.877
Water Level – MW-49	Feet	1046	-6.532

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	—
Lead GAC Effluent	FOG, BTEX	—
Lag GAC Effluent	FOG, BTEX, pH	—

Date of Visit: 7-16-04

Field Representative (Print and Sign): JOHN AMBROSO JA

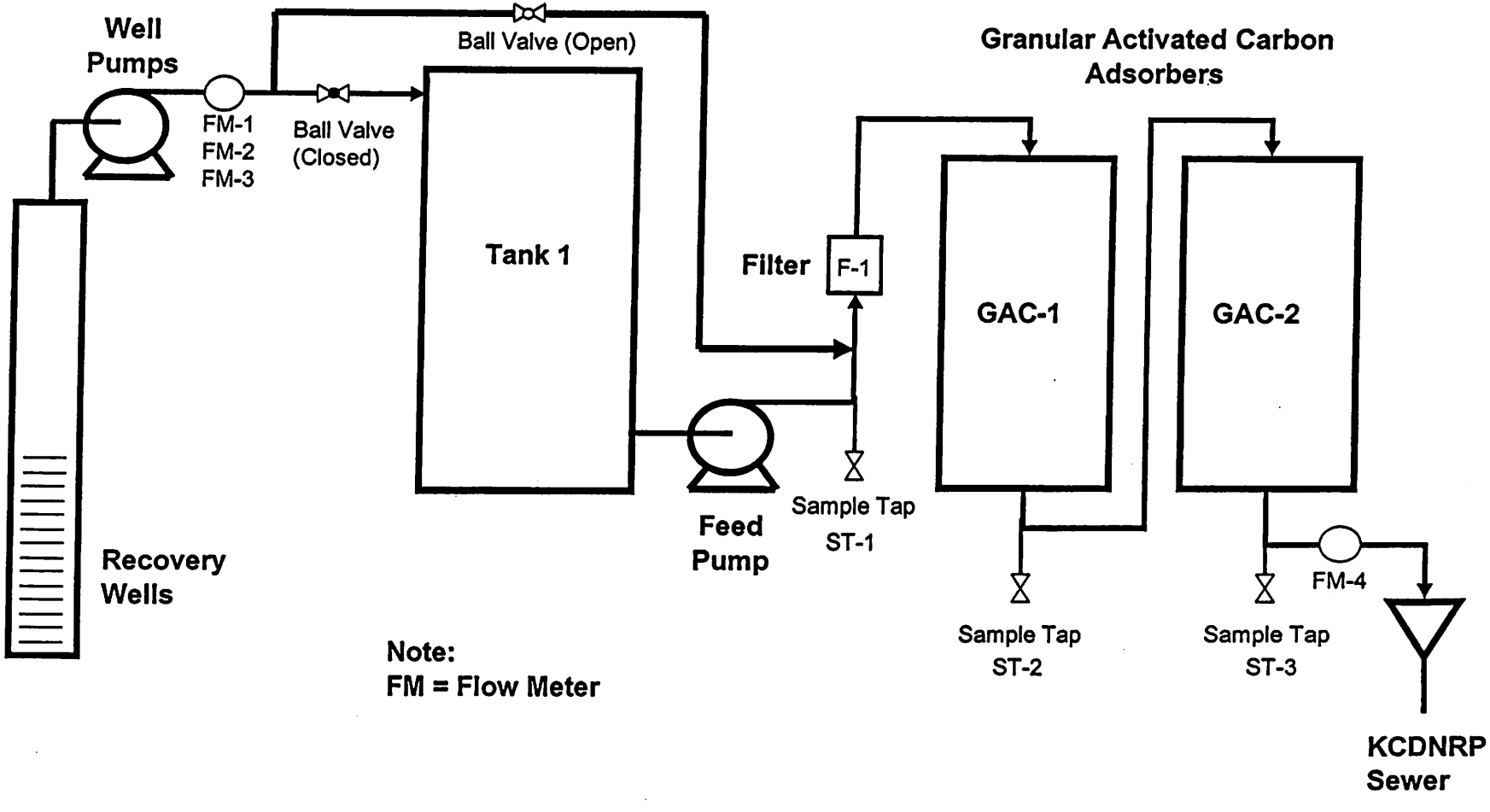
Maintenance Issues Resolution Form

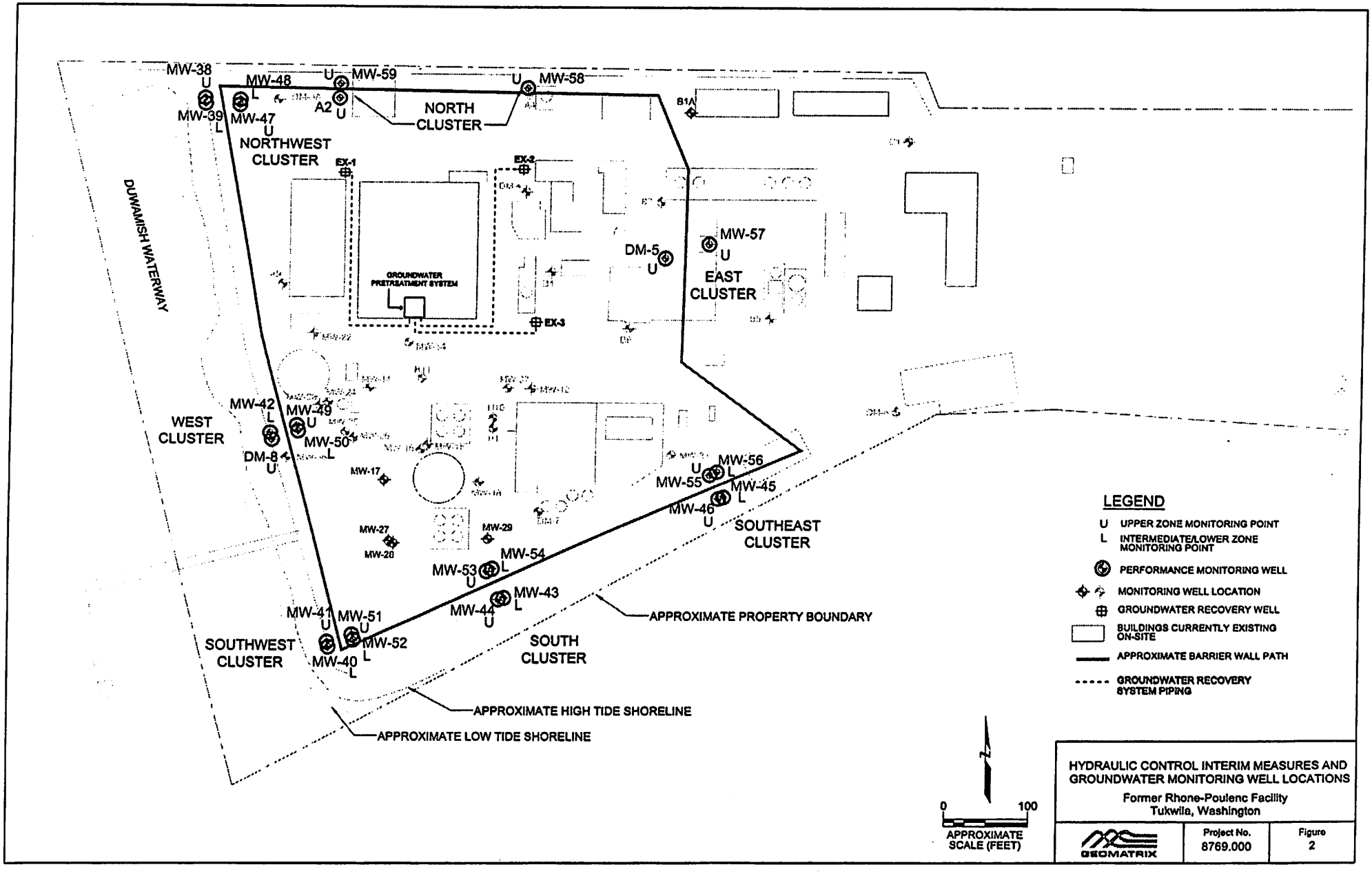
Maintenance Issue (Attach Supporting Information as Needed)
KURT TNIWRS MUST NAUD SOFTWARE PROBLEM
Resolution (Attach Supporting Information as Needed)
?

Responsible Party (Print and Sign): J. Ambrose

Date: 7-16-04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

SYSTEM OFF

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	0 1175396
EX-2 Flow (Inst./Total)	gpm/gallons	0 1178047
EX-3 Flow (Inst./Total)	gpm/gallons	0 1135701
Filter Influent Pressure	psi	0
Lead GAC Influent Pressure	psi	0
Lead GAC Effluent Pressure	psi	0

TOTALIZER 6PM 0 / 612242

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	0843	0.129
Water Level – DM-8	Feet	0843	2.476
Water Level – MW-49	Feet	0844	-1.179

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	—
Lead GAC Effluent	FOG, BTEX	—
Lag GAC Effluent	FOG, BTEX, pH	—

Date of Visit: 7-22-04

Field Representative (Print and Sign): J. AMBROSE JA

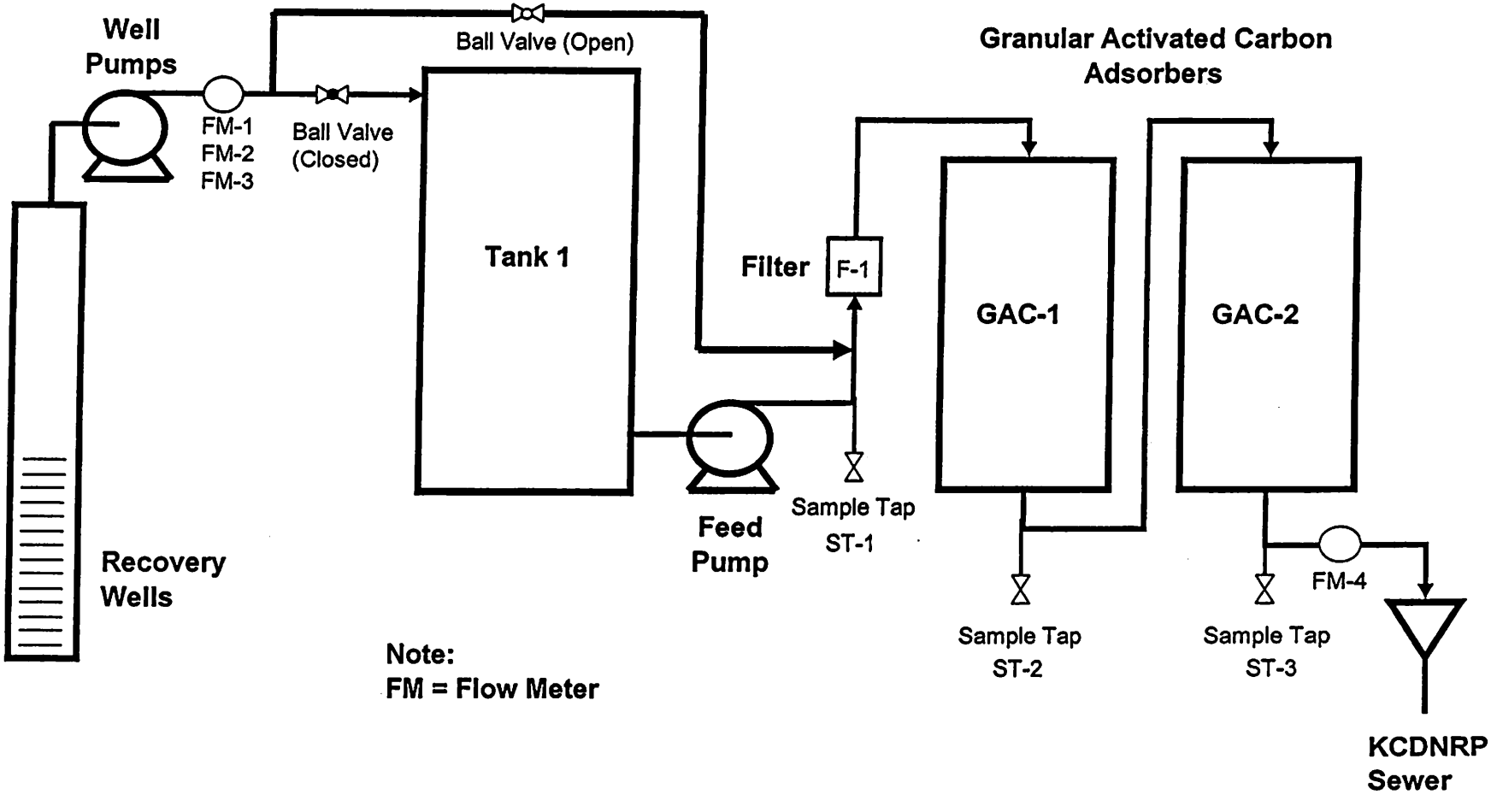
Maintenance Issues Resolution Form

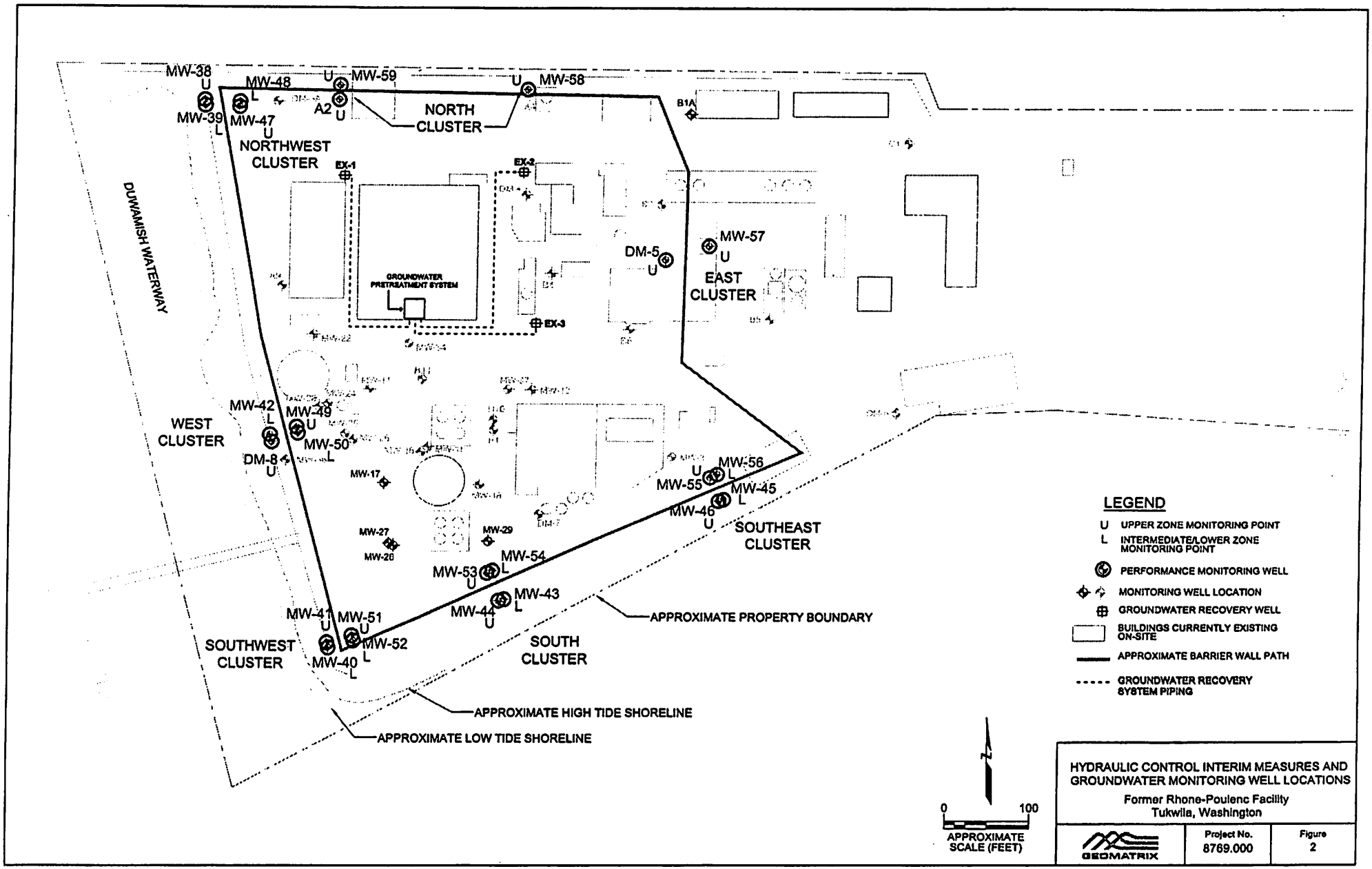
Maintenance Issue (Attach Supporting Information as Needed)
NONE
Resolution (Attach Supporting Information as Needed)
NONE

Responsible Party (Print and Sign): JAMES BRASO JR

Date: 7/22/04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

SYSTEM OFF

Treatment System Inspection Log

GEOMATRIX WORKINGON COMPUTER SYSTEM

8/13/04

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

Y
Y
Y
Y

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading	
EX-1 Flow (Inst./Total)	gpm/gallons	Ø	1753220
EX-2 Flow (Inst./Total)	gpm/gallons	Ø	1780118
EX-3 Flow (Inst./Total)	gpm/gallons	Ø	1357218
Filter Influent Pressure	psi	Ø	
Lead GAC Influent Pressure	psi	Ø	
Lead GAC Effluent Pressure	psi	Ø	

SAME
" "
" "
" "

TOTALIZER GPM/TOTAL GALLONS Ø/612646 Ø/613214

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	1009	.144
Water Level – DM-8	Feet	1007	-2.328
Water Level – MW-49	Feet	1008	-1.179

TIME / READING
1127 / .144
1127 / -1.681
-0.888

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

N / N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	7-29 1140
Lead GAC Effluent	FOG, BTEX	7-29 1145
Lag GAC Effluent	FOG, BTEX, pH	7-29 1155

Date of Visit: 7-29-04

Field Representative (Print and Sign): J AMBROSE

Maintenance Issues Resolution Form

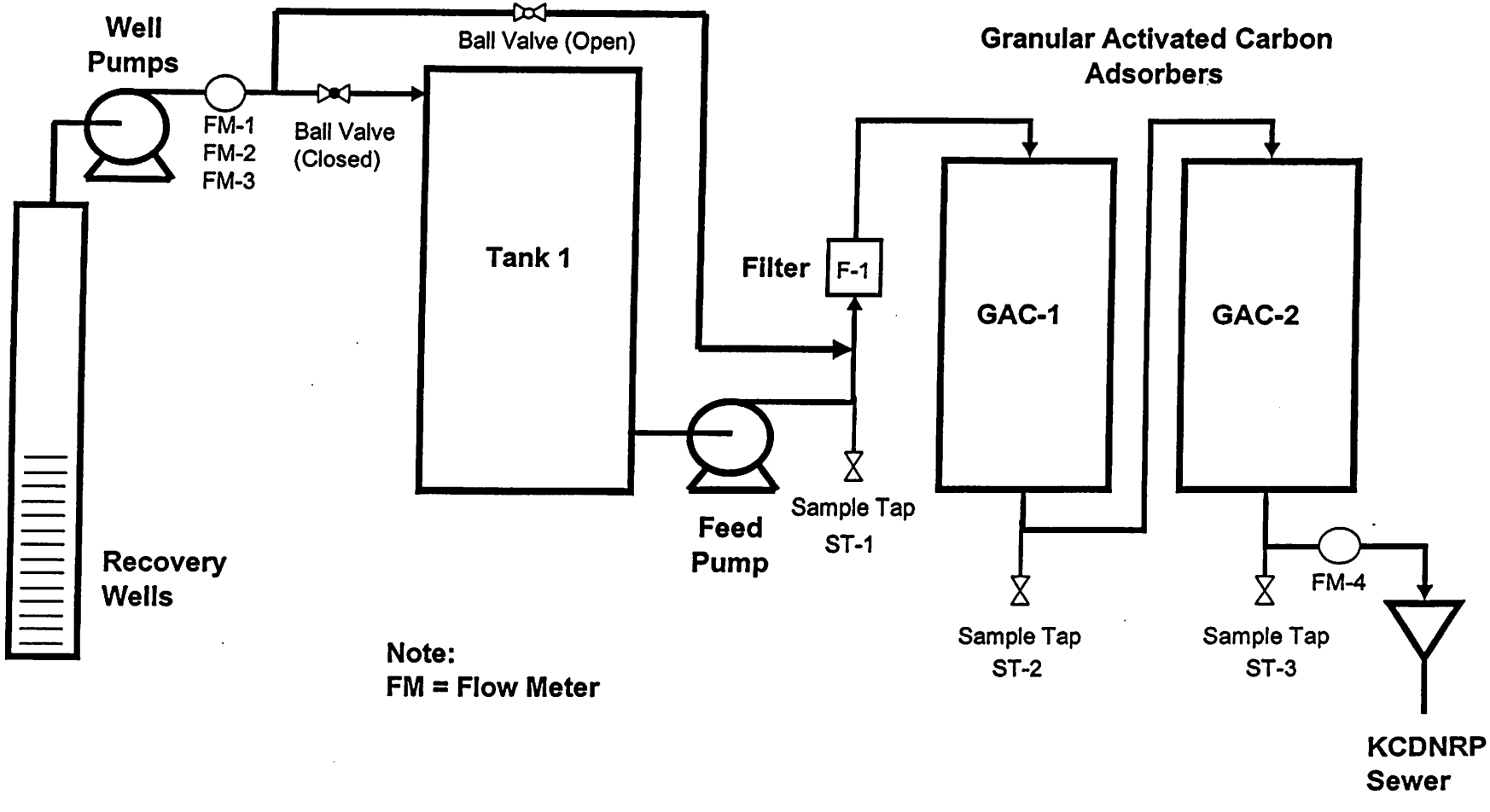
Maintenance Issue (Attach Supporting Information as Needed)
SYSTEM OFF

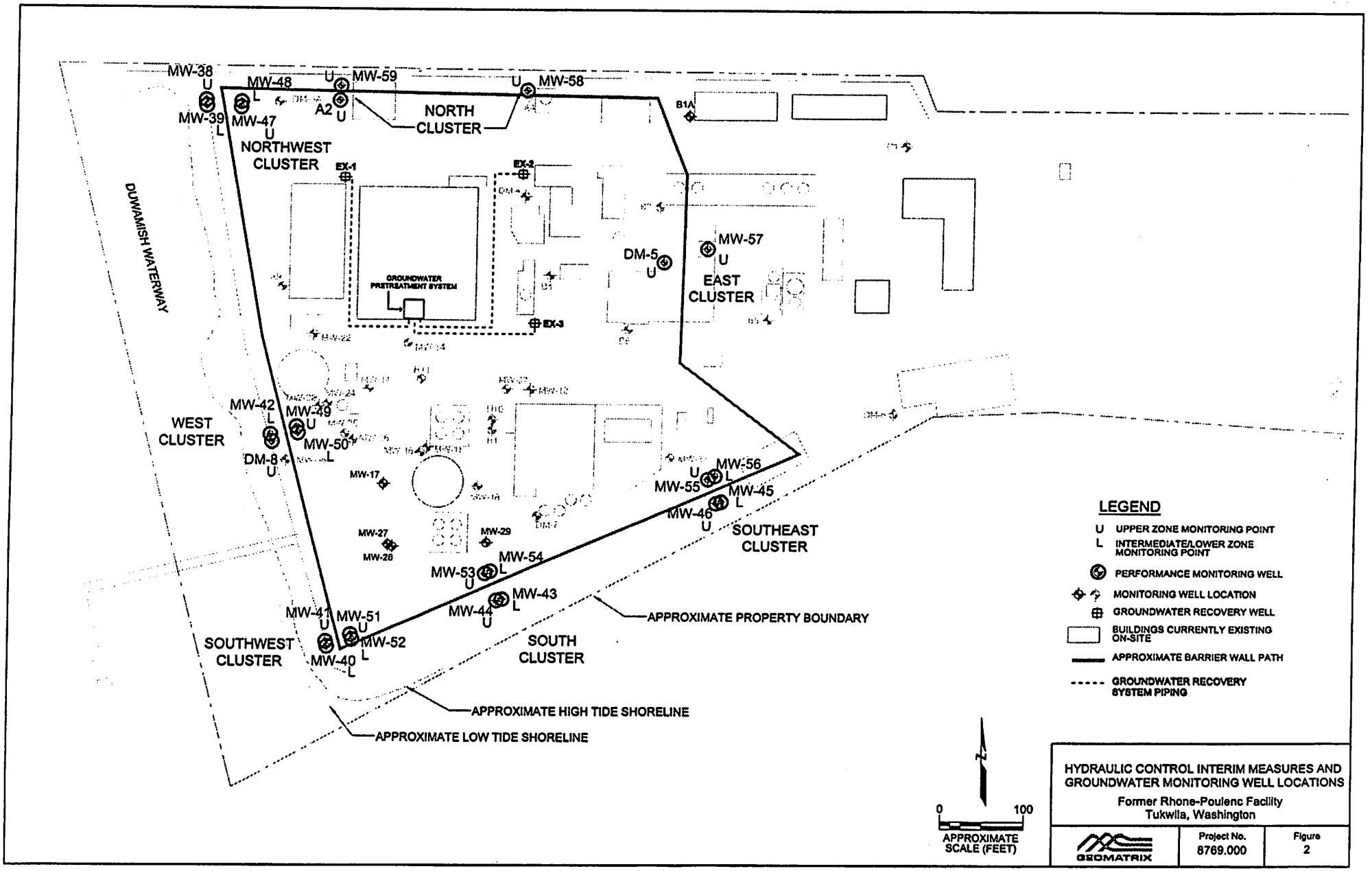
Resolution (Attach Supporting Information as Needed)
SYSTEM OFF WORKING ON IT

Responsible Party (Print and Sign): I. AMBROSE

Date: 7-29-04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	0 / 1753220
EX-2 Flow (Inst./Total)	gpm/gallons	0 / 1780118
EX-3 Flow (Inst./Total)	gpm/gallons	0 / 1357218
Filter Influent Pressure	psi	0
Lead GAC Influent Pressure	psi	0
Lead GAC Effluent Pressure	psi	0

~~STUCK~~

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	1030	.144
Water Level – DM-8	Feet	1030	-2.005
Water Level – MW-49	Feet	1030	-1.033

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	
Lead GAC Effluent	FOG, BTEX	
Lag GAC Effluent	FOG, BTEX, pH	

Date of Visit: 8/4/09

Field Representative (Print and Sign): Kurt Dressen / KURT DRESSEN

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
Pumps off. PLC on.
Resolution (Attach Supporting Information as Needed)
working it used

Responsible Party (Print and Sign): Kurt Dressen / Kurt Dressen

Date: 8/4/04

Treatment System Inspection Log

SYSTEM OFF

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	NA
Bag Filter	Y	NA
GAC Units	Y	NA
Pressure Gauges/Flow Meters	Y	NA

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	0 / 1753220
EX-2 Flow (Inst./Total)	gpm/gallons	0 / 1780118
EX-3 Flow (Inst./Total)	gpm/gallons	0 / 1357218
Filter Influent Pressure	psi	0
Lead GAC Influent Pressure	psi	0
Lead GAC Effluent Pressure	psi	0
TOTALIZER	GPM / TOTAL	0 613 214

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	1127	.144
Water Level – DM-8	Feet	1127	- 1.681
Water Level – MW-49	Feet	1127	- 0.888

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	
Lead GAC Effluent	FOG, BTEX	
Lag GAC Effluent	FOG, BTEX, pH	

Date of Visit: 8-13-04

Field Representative (Print and Sign): JOHN AMBROSO JA

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
NONE

Resolution (Attach Supporting Information as Needed)
NONE

Responsible Party (Print and Sign):

Date: 8-13-09

JOHN AMBROSE

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	NO
Bag Filter	Y	NO
GAC Units	Y	NO
Pressure Gauges/Flow Meters	Y	NO

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	11.33 / 1790390
EX-2 Flow (Inst./Total)	gpm/gallons	0.0 / 1780118
EX-3 Flow (Inst./Total)	gpm/gallons	0.0 / 1357218
Filter Influent Pressure	psi	2.0
Lead GAC Influent Pressure	psi	0
Lead GAC Effluent Pressure	psi	0

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	0842	11.06
Water Level – DM-8	Feet	0843	1.75
Water Level – MW-49	Feet	0843	-1.179

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	
Lead GAC Effluent	FOG, BTEX	
Lag GAC Effluent	FOG, BTEX, pH	

Date of Visit: 8-17-04

Field Representative (Print and Sign): J. RUMBAUGH

SYSTEM RUNNING @ DEPOT

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
NONE
Resolution (Attach Supporting Information as Needed)
NONE

Responsible Party (Print and Sign):_

Date: 8-15-04

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	0.0 / 1807663
EX-2 Flow (Inst./Total)	gpm/gallons	0.0 / 1780118
EX-3 Flow (Inst./Total)	gpm/gallons	0.0 / 1357219
Filter Influent Pressure	psi 0	0.0
Lead GAC Influent Pressure	psi 0	0.0
Lead GAC Effluent Pressure	psi 0	0.0

TOTALIZER 1.0 / 671483

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	1341	1.269
Water Level – DM-8	Feet	1342	1.574
Water Level – MW-49	Feet	1342	-1.096

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	
Lead GAC Effluent	FOG, BTEX	
Lag GAC Effluent	FOG, BTEX, pH	

Date of Visit: 8-26-04

Field Representative (Print and Sign): J AMBROSE

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
NA
Resolution (Attach Supporting Information as Needed)
NA

Responsible Party (Print and Sign): T. AMBROSO

Date: 8-26-04

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	0 1807663
EX-2 Flow (Inst./Total)	gpm/gallons	0 1780118
EX-3 Flow (Inst./Total)	gpm/gallons	0 1357219
Filter Influent Pressure	psi	0
Lead GAC Influent Pressure	psi	0
Lead GAC Effluent Pressure	psi	0

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	1114	1.159
Water Level – DM-8	Feet	1114	- 1.798
Water Level – MW-49	Feet	1115	- 0.597

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): Y

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	8-30 1125
Lead GAC Effluent	FOG, BTEX	8-30 1130
Lag GAC Effluent	FOG, BTEX, pH	8-30 1120

Date of Visit: 8-30-04

Field Representative (Print and Sign): JAMES BOSE JAB

Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
N/A
Resolution (Attach Supporting Information as Needed)
N/A

Responsible Party (Print and Sign): John Ambrose

Date: 8-30-04

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

GAUGES —

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	~~0~~ 9.33 KHD / ~~1296960~~ ~~1082635~~ KHD
EX-2 Flow (Inst./Total)	gpm/gallons	0 / 1061238
EX-3 Flow (Inst./Total)	gpm/gallons	~~7.33~~ KHD / ~~1296960~~ 1082635 KHD
Filter Influent Pressure	psi 1.0	— BY PASSED
Lead GAC Influent Pressure	psi 15	— —
Lead GAC Effluent Pressure	psi NA	NEEDS PRESSURE GAUGE

9.11 / ~~2496~~ 2463906

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	12:19	9.184
Water Level – DM-8	Feet	12:20	-1.656
Water Level – MW-49	Feet	12:20	-0.493

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	
Lead GAC Effluent	FOG, BTEX	
Lag GAC Effluent	FOG, BTEX, pH	

Date of Visit: 4-21-04

Field Representative (Print and Sign): J. AMBLOD

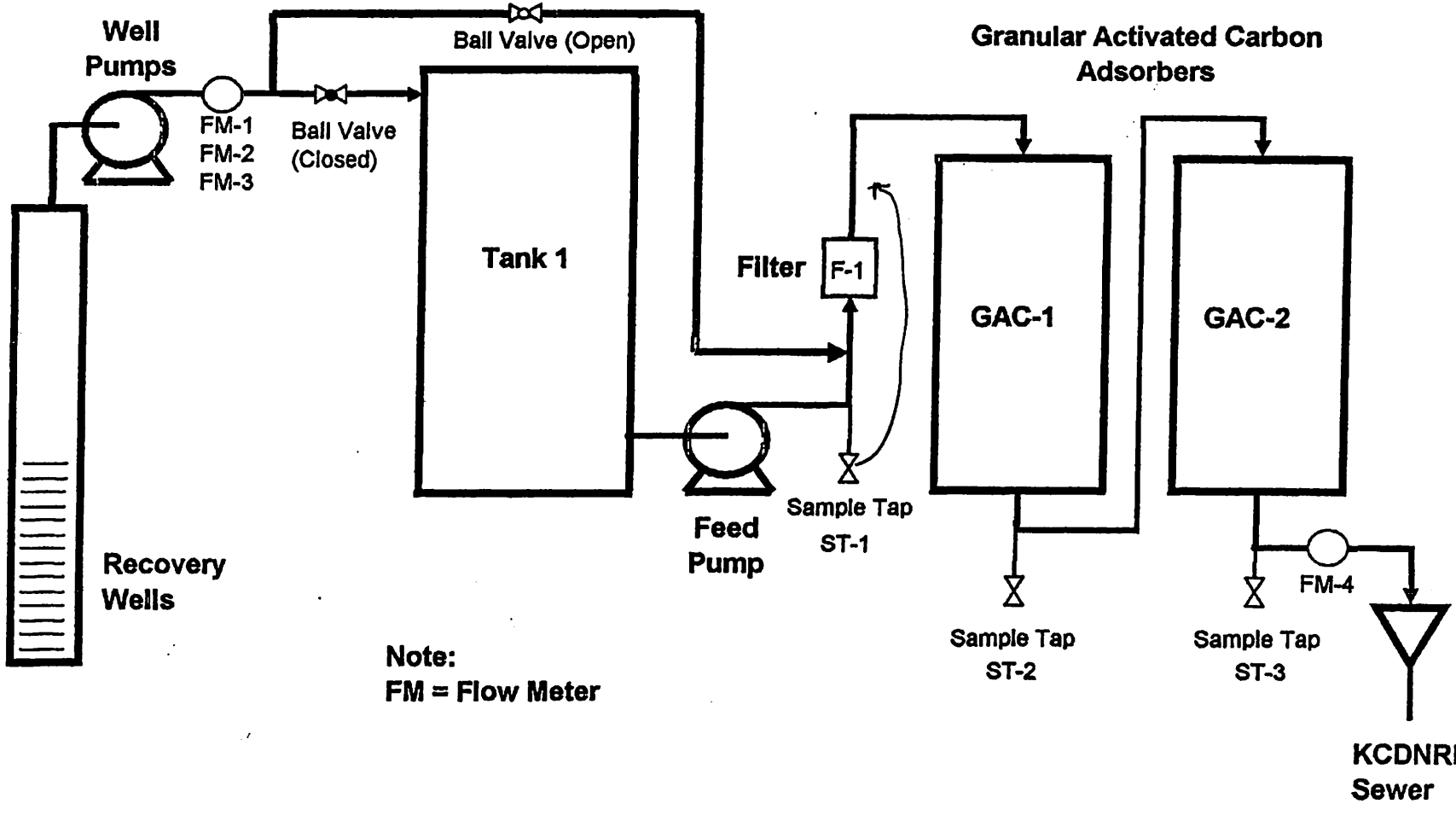
Maintenance Issues Resolution Form

Maintenance Issue (Attach Supporting Information as Needed)
1.) MIGHT NEED PATCH OR SEALANT 2.) SAME FOR NORTH OVERLAYMENT AREA 3.) PROBLEM MIGHT NEED PATCH
Resolution (Attach Supporting Information as Needed)

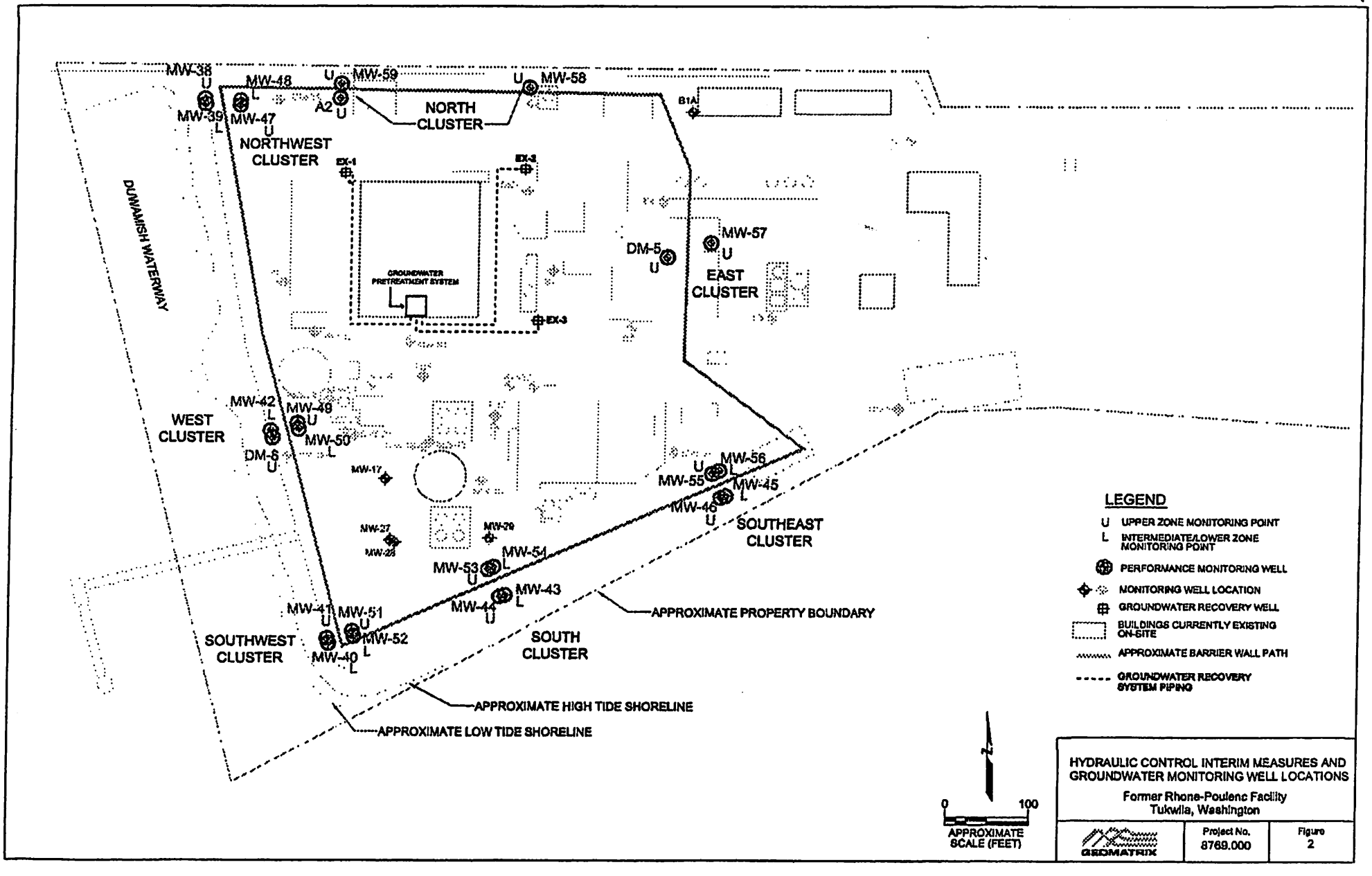
Responsible Party (Print and Sign): JAMES BLOSE

Date: 4-26-04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM



6981



HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	NA
Bag Filter	Y	NA
GAC Units	Y	NA
Pressure Gauges/Flow Meters	Y	NA

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading	
EX-1 Flow (Inst./Total)	gpm/gallons	9.3	1374777
EX-2 Flow (Inst./Total)	gpm/gallons	0.0	1106238
EX-3 Flow (Inst./Total)	gpm/gallons	0.0	1082635
Filter Influent Pressure	psi 2	—	—
Lead GAC Influent Pressure	psi 14	—	—
Lead GAC Effluent Pressure	psi N.A	9.0	2539739

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm ~~9.6~~	1213	9.1
Water Level – DM-8	Feet	1215	1.147
Water Level – MW-49	Feet	1216	-0.472

Data Downloaded (Y/N): Y Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): Y

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	4/28 1235
Lead GAC Effluent	(FOG) BTEX	4/28 1250
Lag GAC Effluent	(FOG) (BTEX) (pH)	4/28 1300

Date of Visit: 4/28/04

Field Representative (Print and Sign): JOHN AMBROSE

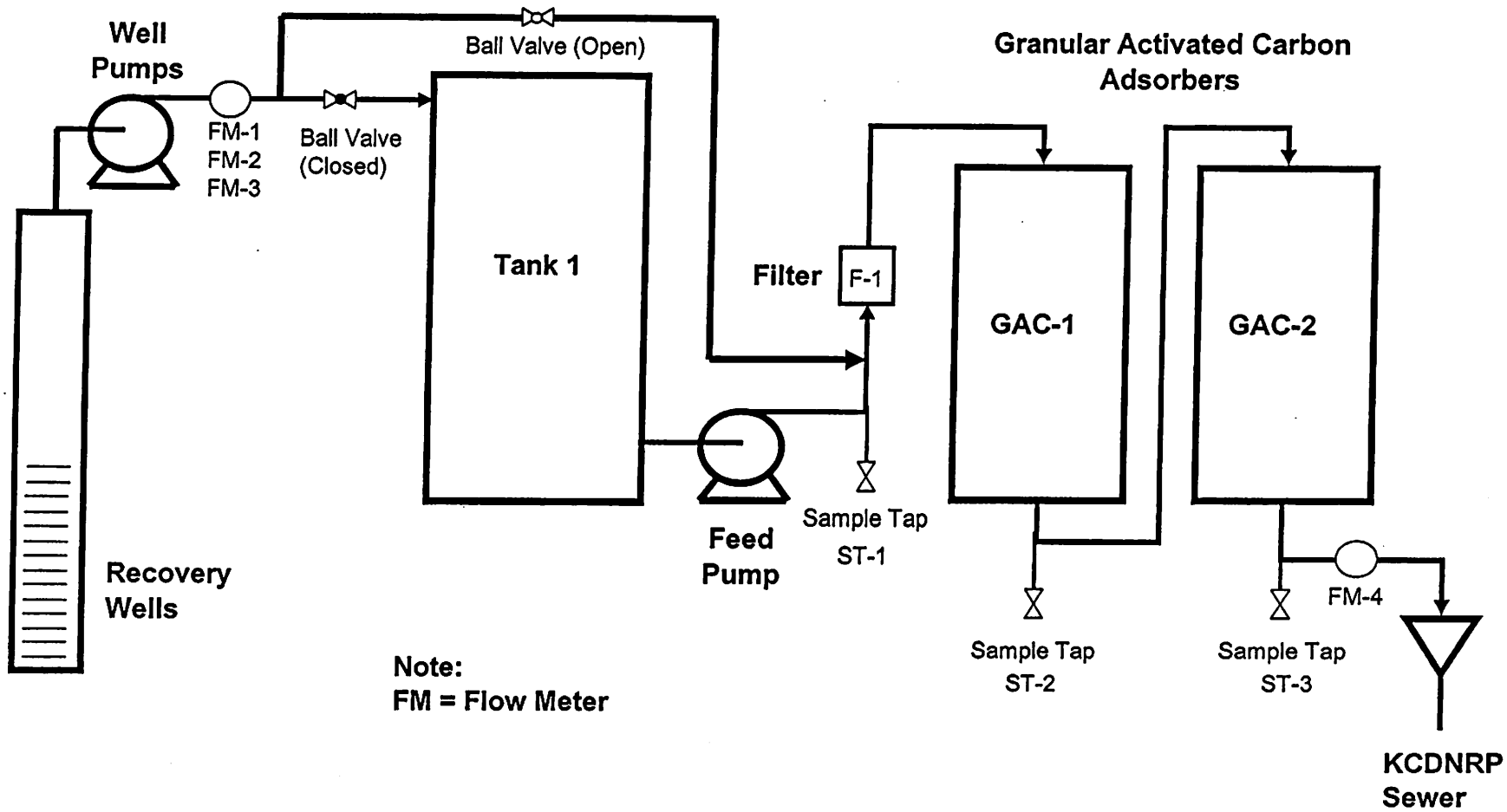
Maintenance Issues Resolution Form

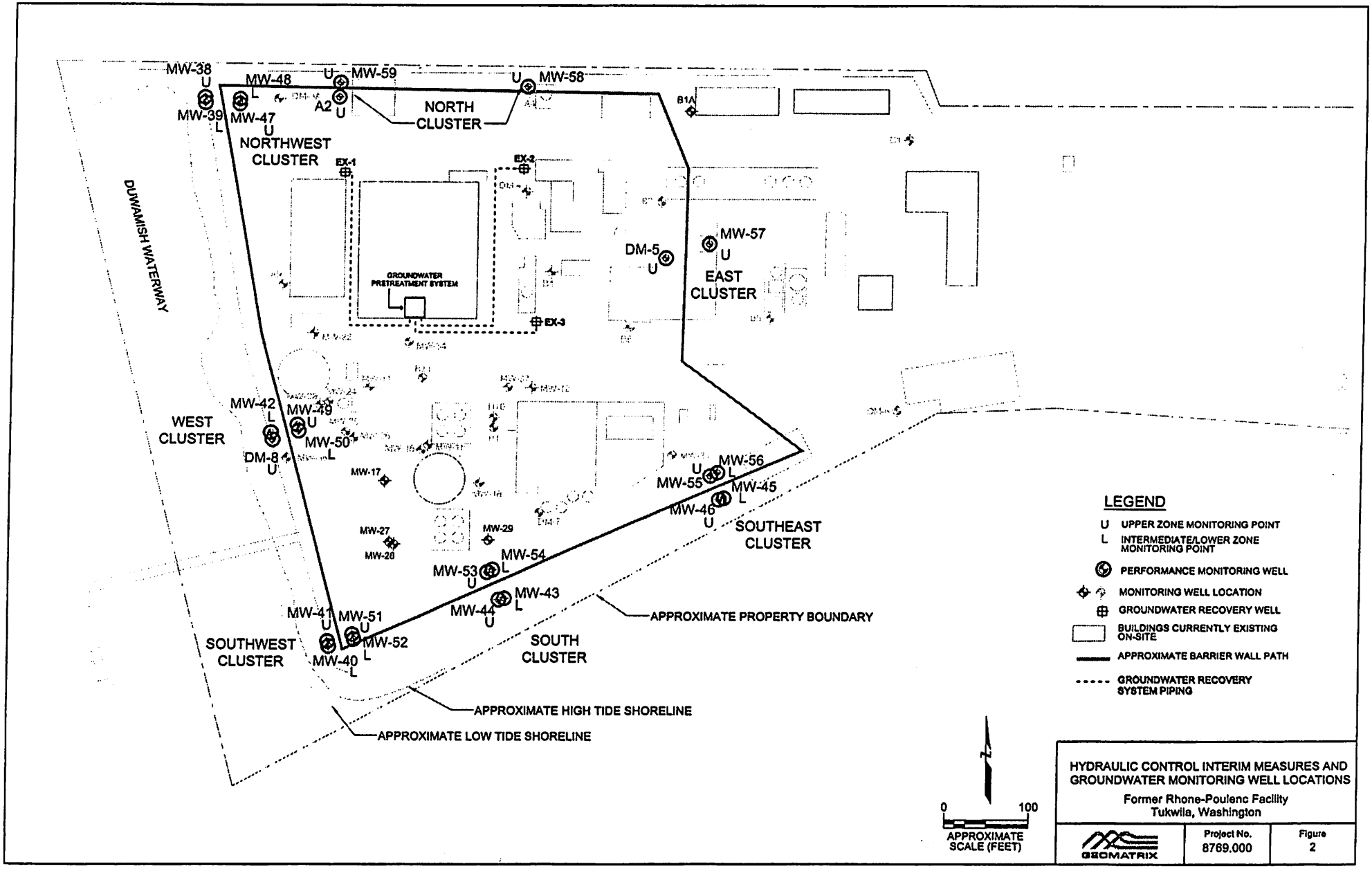
Maintenance Issue (Attach Supporting Information as Needed)
TEMP. FENCE GONE ON EASTSIDE OF SITE AT (2) LOCATIONS DOOR ON WESTSIDE OF BLDG LEFT UNSECURED.
Resolution (Attach Supporting Information as Needed)

Responsible Party (Print and Sign): JOHN DINOSSO

Date: 4/28/04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading
EX-1 Flow (Inst./Total)	gpm/gallons	3.05 / 1451475
EX-2 Flow (Inst./Total)	gpm/gallons	15.08 / 10963386
EX-3 Flow (Inst./Total)	gpm/gallons	0.0 / 1082635
Filter Influent Pressure	psi	~~32.0~~ 10.0
Lead GAC Influent Pressure	psi	32.0
Lead GAC Effluent Pressure	psi	N.A

NEED PRESSURE GAUGE BETWEEN THE TWO AND EFFLUENT

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	08:59	18.195
Water Level – DM-8	Feet	08:59	.422
Water Level – MW-49	Feet	09:00	-0.597

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	
Lead GAC Effluent	FOG, BTEX	
Lag GAC Effluent	FOG, BTEX, pH	

Date of Visit: 5-5-04

Field Representative (Print and Sign): JOHN AMBROSO

Maintenance Issues Resolution Form

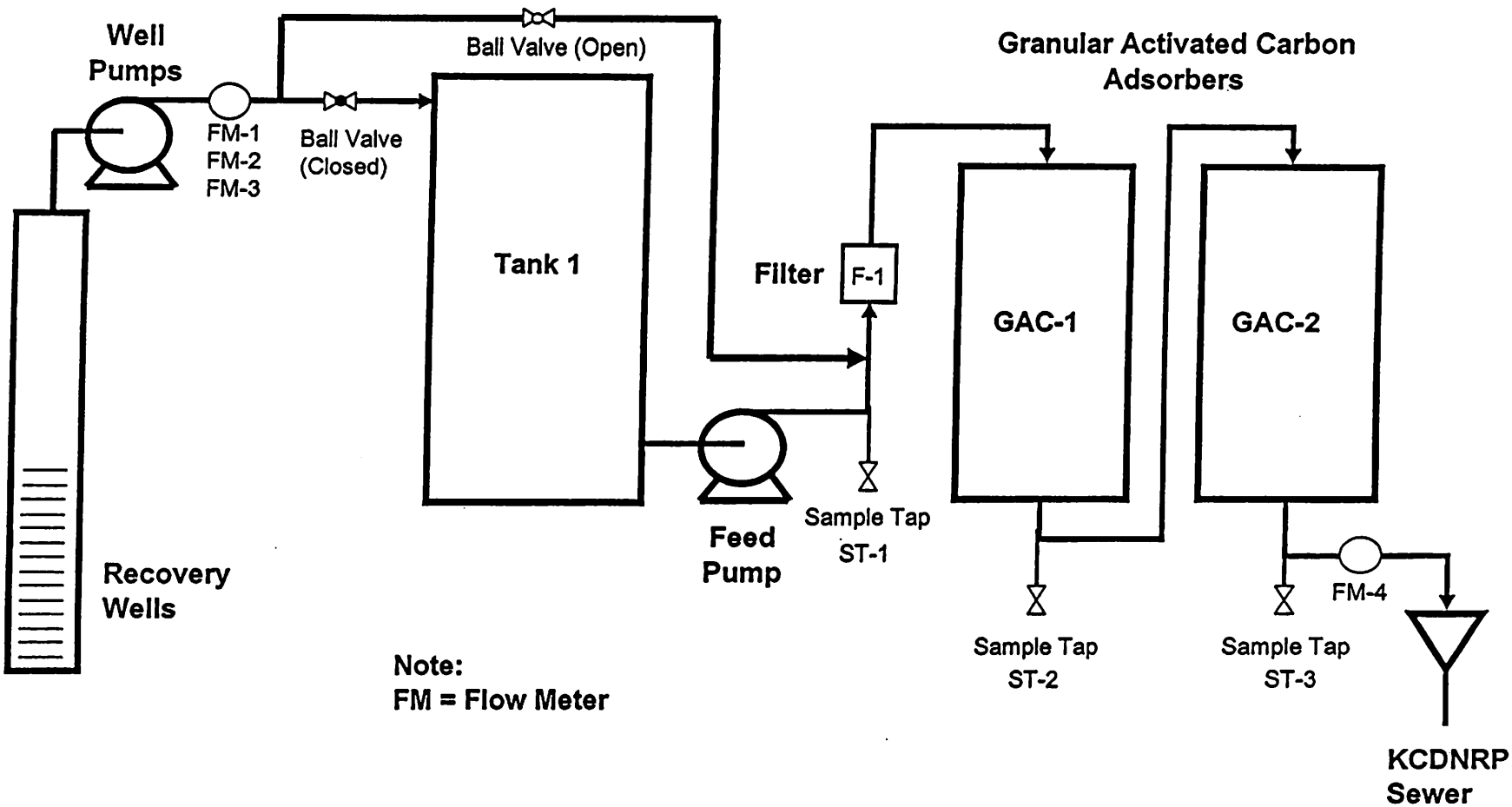
Maintenance Issue (Attach Supporting Information as Needed)

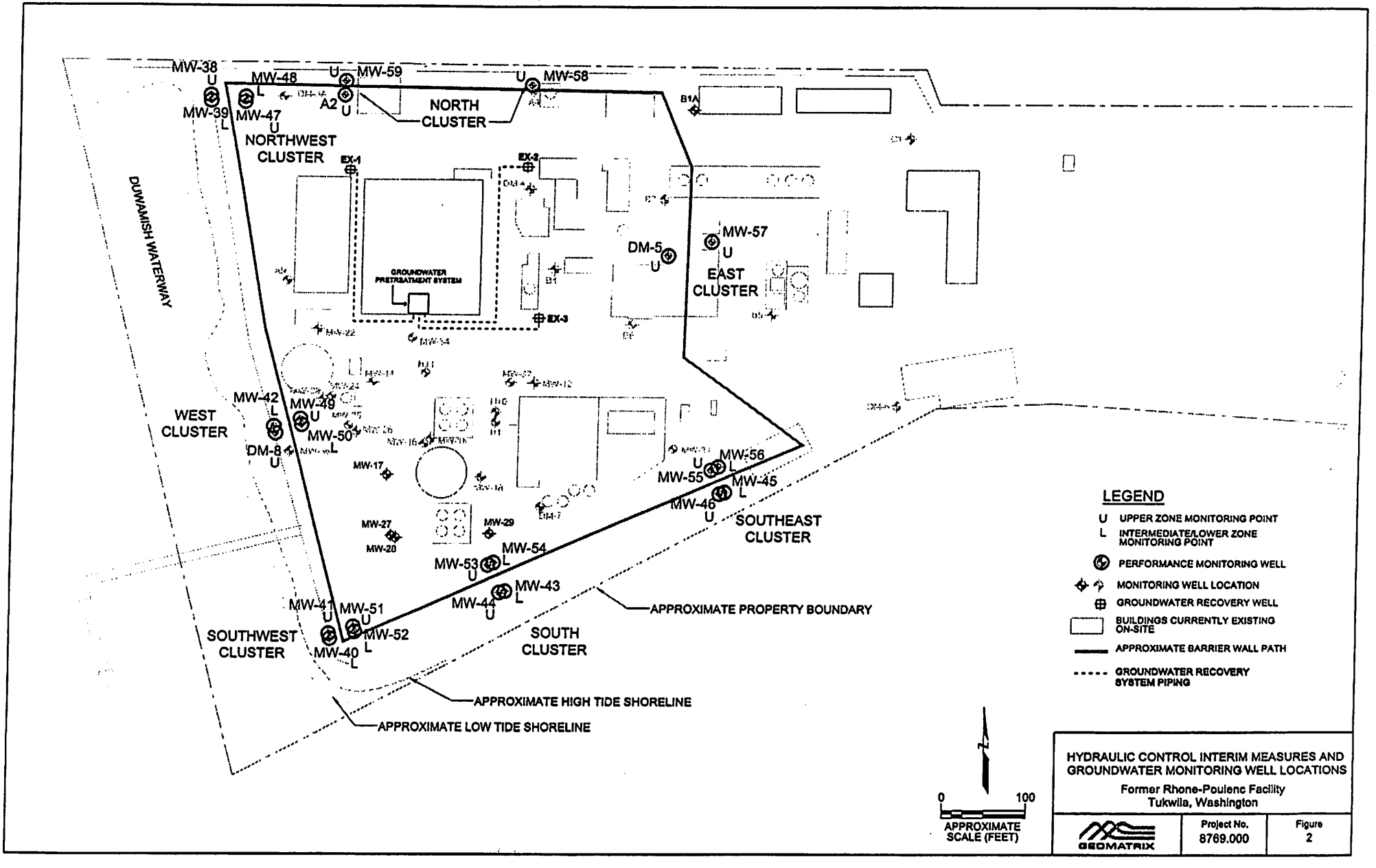
Resolution (Attach Supporting Information as Needed)
NEEDS TO PUT PRESSURE GAUGES BETWEEN CARBON VESSELS AND ONE EFFLUENT SIDE

Responsible Party (Print and Sign): JOHN AMBROSO

Date: 5-5-04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading 3.31
EX-1 Flow (Inst./Total)	gpm/gallons	~~484182~~ / 1484201
EX-2 Flow (Inst./Total)	gpm/gallons	14.92 / 1247612
EX-3 Flow (Inst./Total)	gpm/gallons	0.0 / 1082635
Filter Influent Pressure	psi	9
Lead GAC Influent Pressure	psi	33
Lead GAC Effluent Pressure	psi	NA 10 PSI

TOTALIZER ~~GPM~~/GALLONS ~~18.2~~ / 2835410

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	0937	18.226
Water Level – DM-8	Feet	0937	-11.14
Water Level – MW-49	Feet	0938	-0.93

Data Downloaded (Y/N): N Data Converted to Excel (Y/N):_____

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	
Lead GAC Effluent	FOG, BTEX	
Lag GAC Effluent	FOG, BTEX, pH	

Date of Visit: 5-12-09

Field Representative (Print and Sign): J. Ambrose

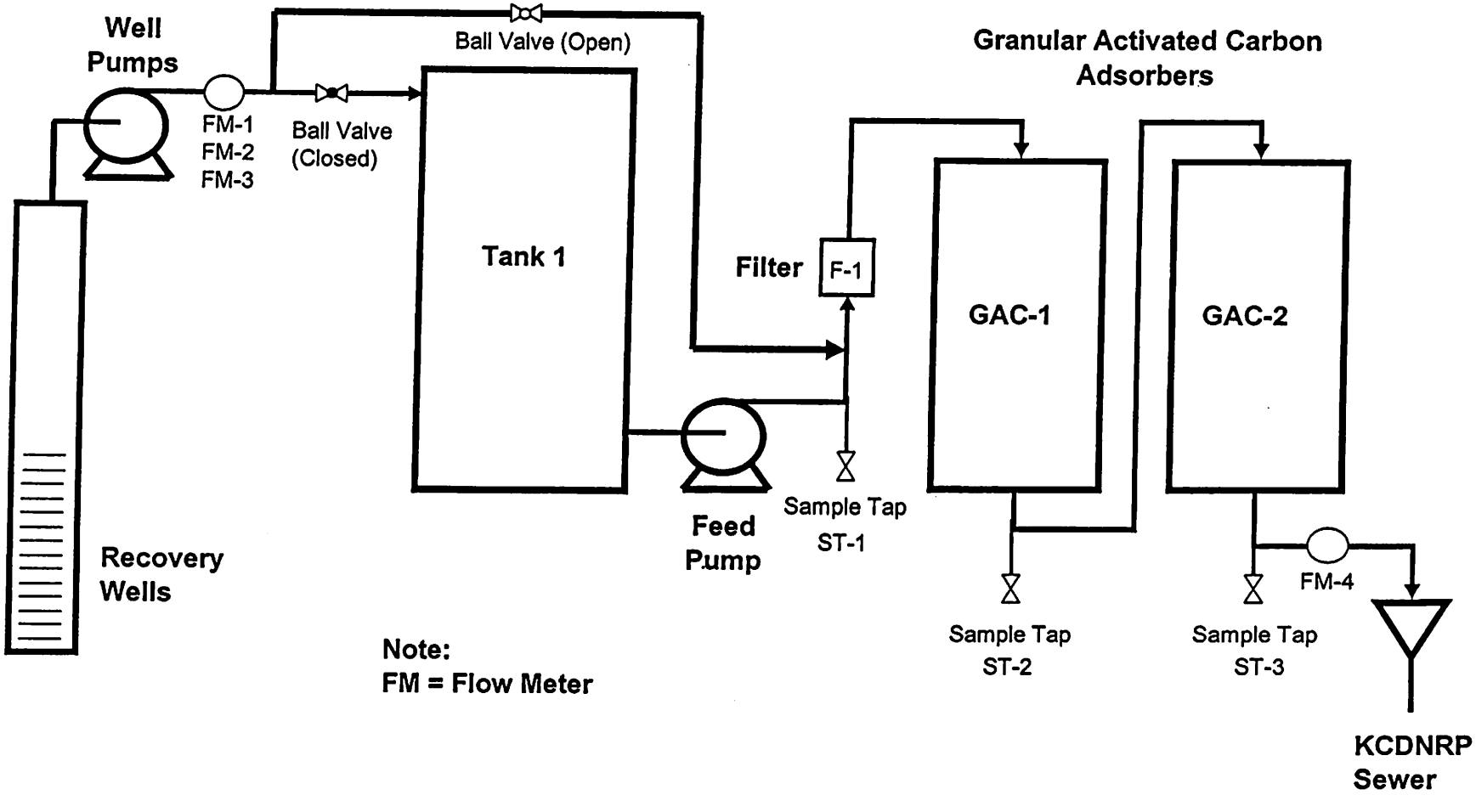
Maintenance Issues Resolution Form

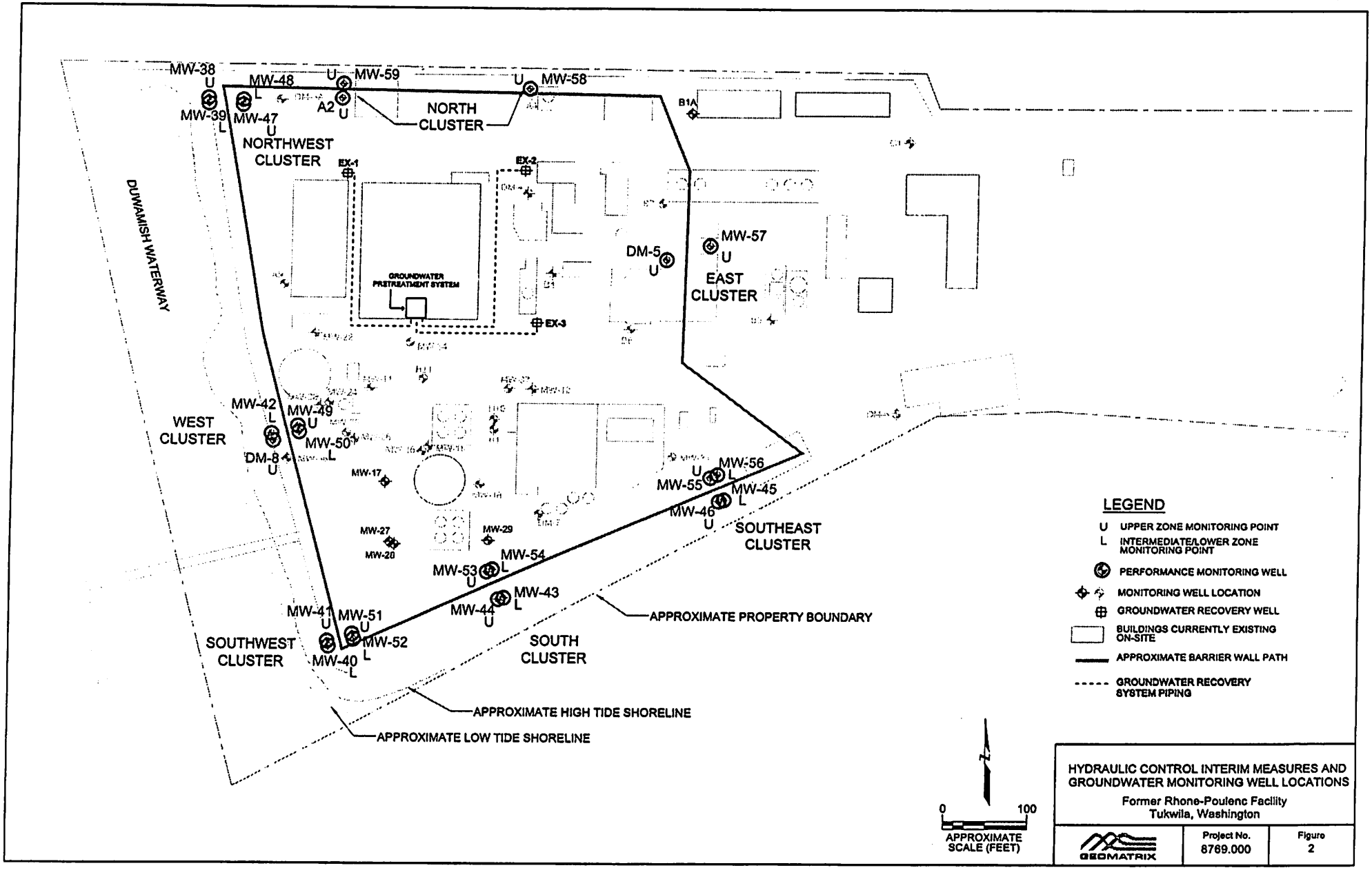
Maintenance Issue (Attach Supporting Information as Needed)
NONE
Resolution (Attach Supporting Information as Needed)
NONE

Responsible Party (Print and Sign): S. AMBROSE

Date: 5-12-04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	
Bag Filter	Y	
GAC Units	Y	
Pressure Gauges/Flow Meters	Y	

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading	
EX-1 Flow (Inst./Total)	gpm/gallons	3.47	1157800
EX-2 Flow (Inst./Total)	gpm/gallons	15.09	1139481
EX-3 Flow (Inst./Total)	gpm/gallons	0	1082635
Filter Influent Pressure	psi	6	
Lead GAC Influent Pressure	psi	30	
Lead GAC Effluent Pressure	psi	10	
TOTALIZER	GPM/GAL	18.65	/ 3820879

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	0951	18.593
Water Level – DM-8	Feet	0951	-11.14
Water Level – MW-49	Feet	0952	-1.241

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	
Lead GAC Effluent	FOG, BTEX	
Lag GAC Effluent	FOG, BTEX, pH	

Date of Visit: MAY 19

Field Representative (Print and Sign): J. AMBROSE JA

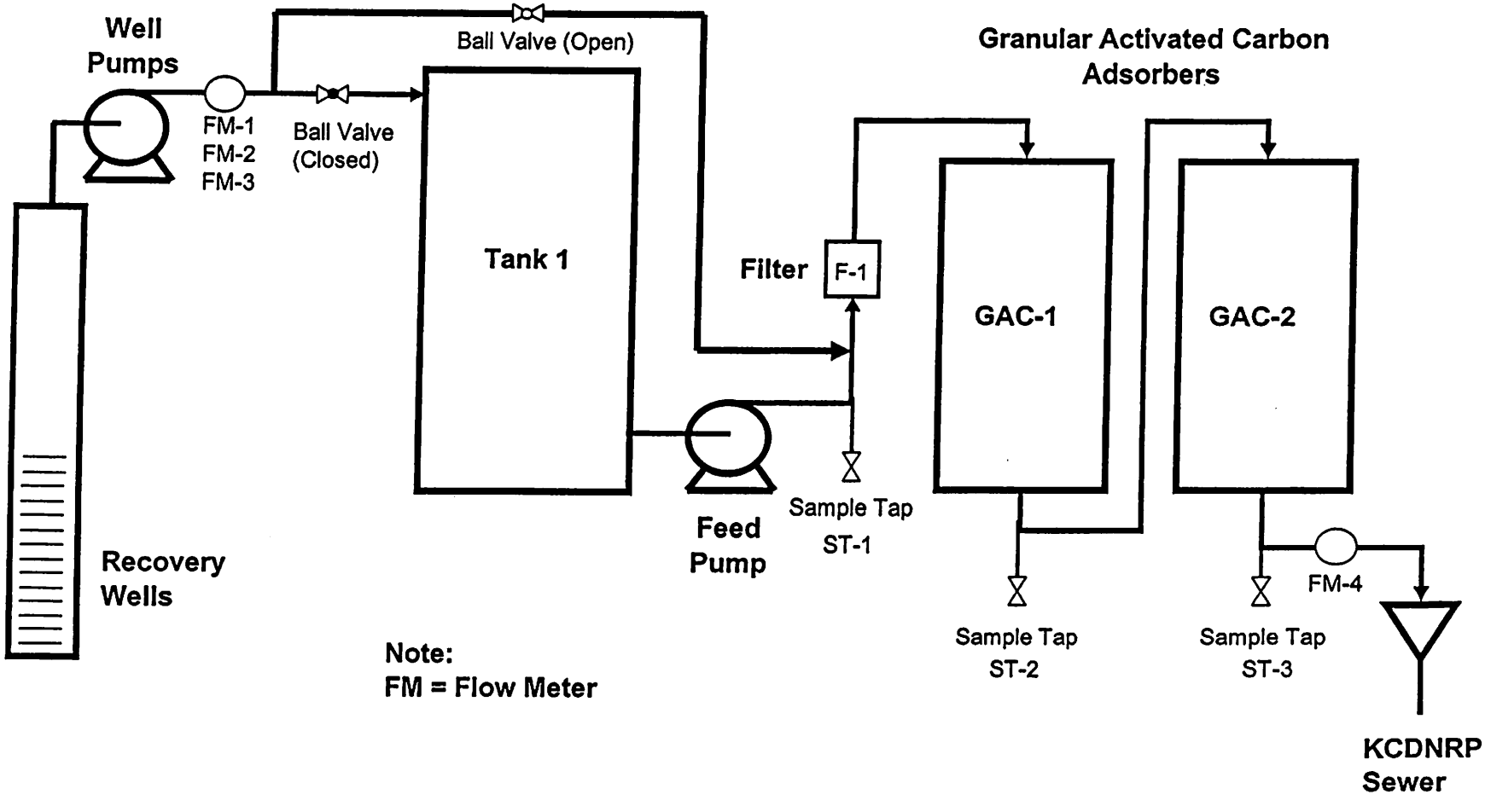
Maintenance Issues Resolution Form

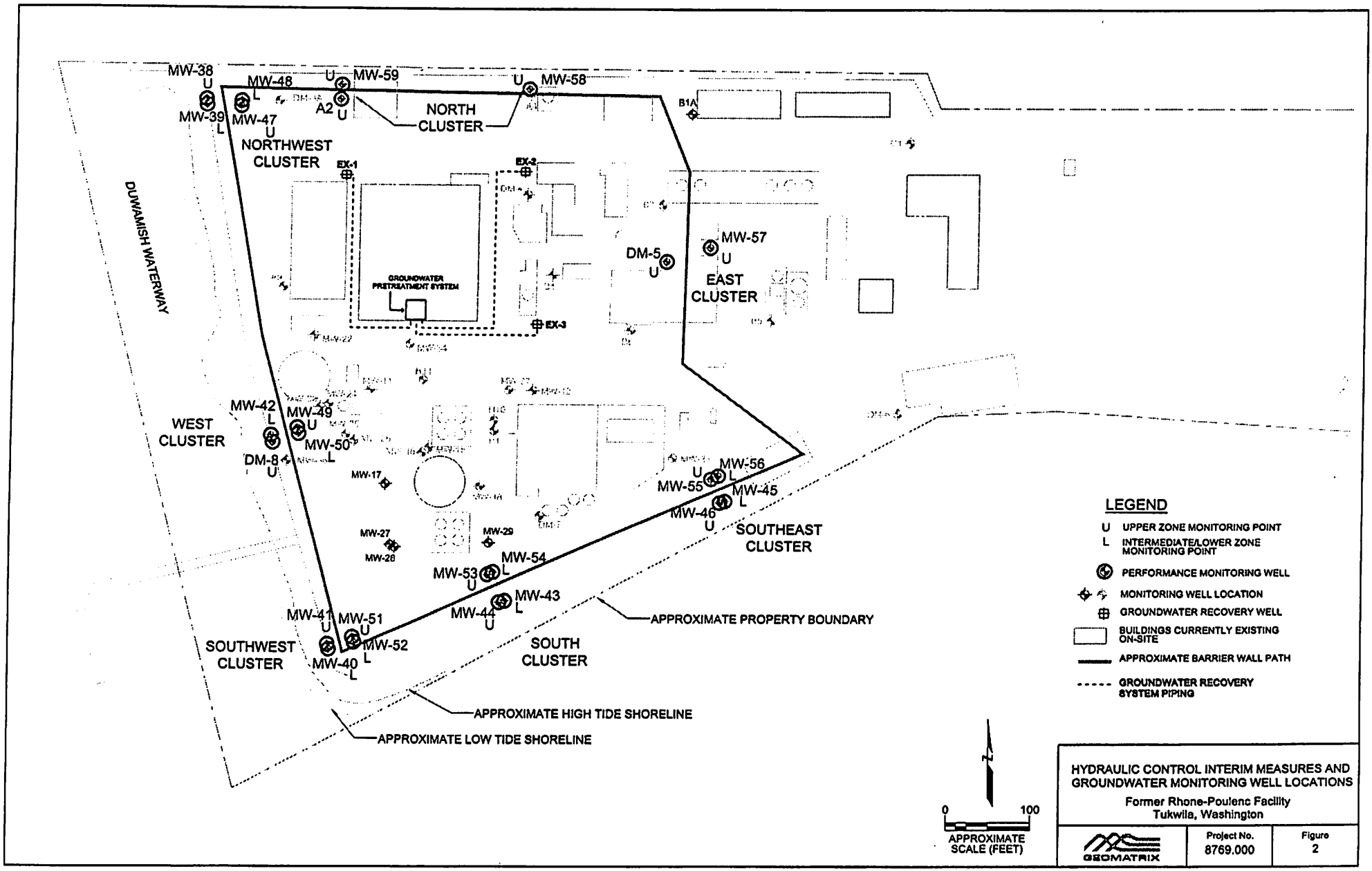
Maintenance Issue (Attach Supporting Information as Needed)
NA
Resolution (Attach Supporting Information as Needed)
NA

Responsible Party (Print and Sign): James Bross

Date: 5/19/04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

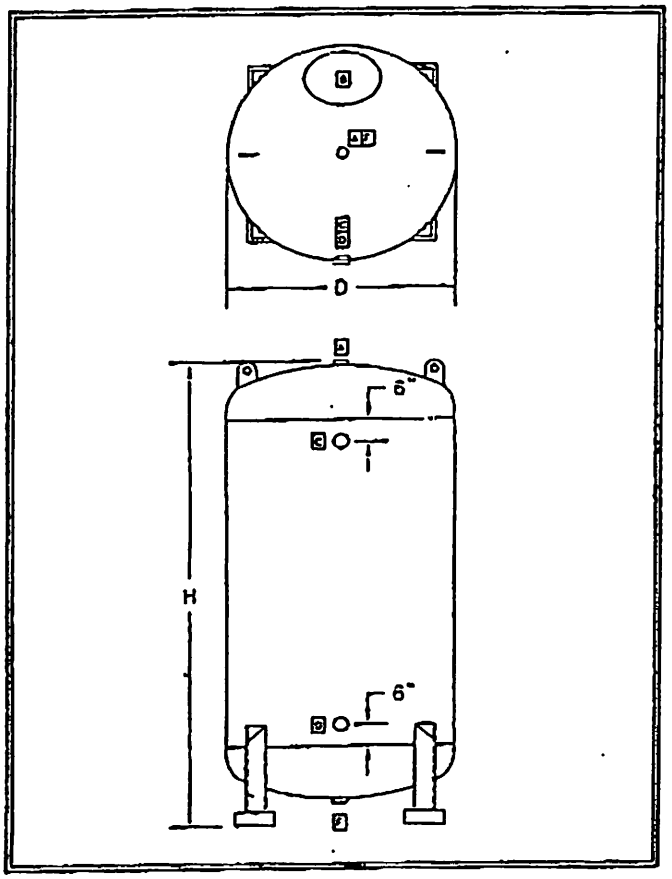
Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

Liquid Phase Carbon Adsorbers
Non-Code Pressure Rated
Models: *NCL-36, NCL-42, NCL-48*

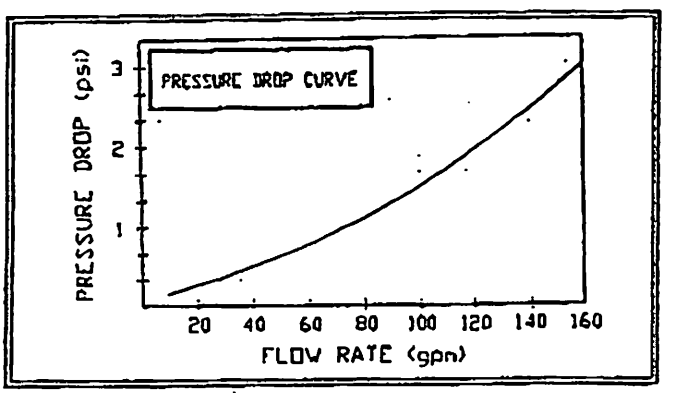
Attn: Kurt

The Clean Environmental Concepts Model NCL Liquid Phase Carbon Adsorbers are designed for high performance purification of your liquid waste or process stream with the added advantages of flexibility and maximum economy. Featuring welded carbon steel, epoxy lined construction and PVC internals, these adsorbers are strong and corrosion resistant. When your Model NCL Liquid Phase Carbon Adsorber becomes spent, it will readily accommodate vacuum or slurry spent carbon change-out operations. To complete our full service commitment, we offer a wide range of service and disposal options to meet your unique requirements.



SPECIFICATIONS:

NCL -	36	42	48
Height (in)	84	88	96
Diameter (in)	36	42	48
Max Flow (gpm)*	55	80	110
Max Pressure (psi)	75	75	75
Max Op Temp (F)	125	125	125
Carbon Capacity:			
Weight (lb)	1,000	1,500	2,000
Volume (ft^3)	34	52	69
Weights:			
Empty (lb)	650	850	1,250
Loaded (lb)	1,650	2,350	3,250
Operating (lb)	4,200	5,800	7,800
Nozzle Schedule:			
Inlet Coupling (C)	3"	3"	3"
Outlet Coupling (D)	3"	3"	4"
Vent Coupling (A)	2"	2"	2"
Manway (B) (in)	11x15	11x15	12x16
Hand-hole (E) (in)	4x6	4x6	4x6
Carbon Outlet (F)	3"	3"	4"



* Flow rates are based on 5 minutes contact time. CEC will recommend the proper contact time for your application.

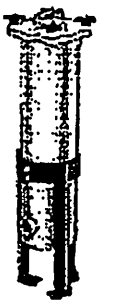
Options:
- 20" to 72" diameter adsorbers in 6" increments
- Additional vessel height for back wash capacity
- Stainless steel internals
- Carbon Outlet ball valve for slurry discharge
- Vent/pressure gauge/sample port assembly
- Skid mounting
- Influent/effluent quick connects
- Pipe rack for series/parallel/single flow

CLEAN ENVIRONMENTAL CONCEPTS, INC.
P.O. Box 745, Vancouver, WA 98666
Tel: (360) 699-7392 Fax: (360) 695-0358

Filter-Bag Housings

For information about micron size, see page 320 . For filter bags, see pages 328-331 .

Easy Access Filter-Bag Housings

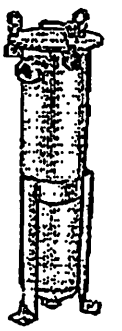


Access your filter bag quickly by loosening the polypropylene knobs on these top-loading flat-lid housings. All have an upper side inlet and a lower side outlet, Viton O-ring seal, polished exterior, and three legs with 5/8" diameter mounting holes. Cover has two 1/4" ports (unless noted) for pressure gauge and vent valve. **Aluminum housings** have a Type 304 stainless steel basket with 9/64" diameter perforations. **Stainless steel housings** have a Type 316 stainless steel basket with 9/64" diameter perforations. **Connections:** NPT female.

Pipe Size	Max. Flow, gpm	Drain Size, NPT Female	Max. Pressure	Housing Ht.	Max. Temp.	Alloy 6061 Aluminum	Each	Max. Temp.	Type 316 Stainless Steel	Each
5" Dia. Housings with Three 14" High Legs										
For Trade Size 3 Filter Bags										
3/4"	25	1/2"	300 psi	12 1/2"	250°F	6870K57 ◊	$235.85	300°F	9298T31 ◊	$494.51
1"	25	1/2"	300 psi	12 51/64"	250°F	6870K58 ◊	235.85	300°F	9298T32 ◊	505.49
For Trade Size 4 Filter Bags										
3/4"	50	1/2"	300 psi	18 1/2"	250°F	6870K59 ◊	264.15	300°F	9298T41 ◊	560.44
1"	50	1/2"	300 psi	18 51/64"	250°F	6870K61 ◊	264.15	300°F	9298T42 ◊	571.43
6 5/8" Dia. Housings with Three 22" High Legs										
For Trade Size 8 Filter Bags										
1 1/2"	100	3/4"	200 psi	24 45/64"	250°F	6870K32	514.15	300°F	9298T81	769.23
2"	100	3/4"	200 psi	25"	250°F	6870K33 ◊	523.59	300°F	9298T82	791.21
For Trade Size 9 Filter Bags										
1 1/2"	150	3/4"	200 psi	34 45/64"	250°F	6870K34	575.47	300°F	9298T91	934.07
2"	150	3/4"	200 psi	35"	250°F	6870K35	584.91	300°F	9298T92	1021.98
8" Dia. Housings with Three 22" High Legs										
For Trade Size 1 Filter Bags										
2"	100	3/4"	150 psi	21 45/64"	250°F	6870K21	580.19	300°F	9298T11	857.14
3"	100	3/4"	150 psi	23"	250°F	6870K23	641.51	300°F	9298T12	945.06
For Trade Size 2 Filter Bags										
2"	220	3/4"	150 psi	34 45/64"	250°F	6870K24	650.94	300°F	9298T21	967.03
3"	220	3/4"	150 psi	37"	250°F	6870K26	707.55	300°F	9298T22	1054.95

◊ Cover has one 1/4" NPT female connection.

Filter-Bag/Cartridge Housings



You can use either a standard Trade Size 2 filter bag or the absolute-rated ultra-high capacity filter cartridge designed especially for these housings (sold separately below). Housings seal and open easily and quickly with three swing bolts and a Viton O-ring seal. They have a 2" upper side inlet and bottom outlet, and two 1/4" gauge ports. Housings include a Type 304 stainless steel basket with 9/64" diameter perforations and three 22" high legs with 5/16" diameter mounting holes. Max. temperature is 400° F. **Connections:** NPT female.

Housings

Pipe Size	Max. Flow	Drain Size, NPT Female	Max. Pressure	Housing Size, Dia. x Ht.	Carbon Steel	Each	Type 304 Stainless Steel	Each	Type 316 Stainless Steel	Each
2"	150 gpm	3/4"	150 psi	8 5/8" x 45"	9307T1	$736.43	9307T4	$1511.63	9307T7	$1821.71

Cartridges

All have a special pleat design with prefiltration and final filtration layers for high efficiency and are absolute rated. Made of polypropylene, they have an EPR O-ring and stainless steel handle. Overall size is 6 1/4" OD x 2" ID x 35" Lg. Max. temperature is 225° F.

Micron Size	Each
0.5	9307T11 $342.64
2	9307T12 327.13

Micron Size	Each
5	9307T13 $286.62
10	9307T14 277.52

Micron Size	Each
20	9307T15 $257.36
40	9307T16 221.71

Micron Size	Each
70	9307T17 $207.75

ASME Code Filter-Bag Housings

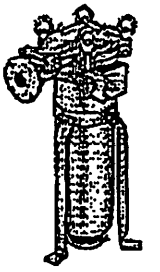
Manufactured in accordance with the ASME (American Society of Mechanical Engineers) boiler and pressure vessel code Section VIII, Division 1, UM stamp. Use for filtering liquids, gases, and potable and process water. The hinged cover has swing bolts with eye nuts for easy opening and a single O-ring design that ensures a positive seal. Housings have a side inlet and bottom outlet. Furnished with a Type 316 stainless steel basket with 11/64" diameter perforations for Trade Sizes 3 and 4, and 1/8" diameter perforations for Trade Size 2. Max. pressure is 150 psi; max. temperature is 250° F. **Housings with Buna-N O-ring** have three legs with 9/16" x 7/8" mounting slots. **Connections:** NPT female.

Without Legs

Pipe Size	Max. Flow, gpm	Drain Size, NPT Female	Housing Dia. x Ht.	Basket Lg.	Carbon Steel Each	Type 304 Stainless Steel Each	Type 316 Stainless Steel Each
With Viton O-Ring and Without Legs							
For Trade Size 3 Filter Bags							
1"	20	—	8 3/4" x 18 3/5"	7"	—	51665K51 $486.67	51665K61 $513.33
For Trade Size 4 Filter Bags							
1"	35	—	8 3/4" x 23 13/16"	12 1/2"	—	51665K53 500.00	51665K63 546.67
2"	35	—	8 1/4" x 23 1/2"	12 1/2"	—	51665K54 533.33	51665K64 593.33
With Buna-N O-Ring and Three 21 3/4" High Legs							
For Trade Size 2 Filter Bags							
2"	160	3/4"	12 1/4" x 54"	30"	51665K15 $1071.64	51665K25 1894.03	51665K35 2108.96

ASME Code Over-the-Top Filter-Bag Housings

An integral pipe from the top side inlet directly feeds the liquid being filtered over the top of your filter bag. This flow-through-top design provides superior bag sealing, preventing any liquid from getting through the housing without going through the filter bag. All meet ASME (American Society of Mechanical Engineers) boiler and pressure vessel code Section VIII, Division 1. All have a bottom outlet. Cover is domed and seals firmly with swing-bolts. Each housing has two 1/4" NPT female vent ports and three 24 1/2" high legs with 3/8" dia. mounting holes. Furnished with Buna-N O-rings and a Type 316 stainless steel basket with 5/32" diameter perforations. Max. temperature is 250° F. **Connections:** 150-lb. ANSI flange with 2" pipe size.



Pipe Size	Max. Flow, gpm	Drain Size, NPT Female	Max. Pressure	Housing Ht.	Carbon Steel Each	Type 316 Stainless Steel Each
For Trade Size 1 Filter Bags						
2"	90	1/2"	150 psi	21 1/4"	9306T11 $1493.48	9306T16 $2230.43
For Trade Size 2 Filter Bags						
2"	180	1/2"	150 psi	36 3/4"	9306T22 1565.22	9306T28 2419.57

Filter Bags

For filter-bag housings, see pages 325-327 . For information about micron size, see page 320 .

About Filter Bags

Filter bags serve as filtering media in filter bag housings. They may also be used in adapter head or slip-on applications that do not use housings. Filter bags are efficient, economical, and easy to change, while offering high flow rates with low pressure drops. They provide good dirt-holding capacities, trapping dirt within the bag.

Types of Bags- We offer bags that fit into standard housings, slip-on bags that do not require a housing but rather a clamp or wire, and grab-on bags that do not require a housing but rather a threaded adapter head.

TradeSize	For Housing Dia.	Lg.
1	8" to 8 1/2"	16" to 17"
2	8" to 8 1/2"	32"
3	4 1/2" to 5"	8" to 8 1/4"
4	4 1/2" to 5"	14"
8	6" to 6 1/2"	20" to 22"
9	6" to 6 1/2"	31" to 33"
12	8 1/2" to 9"	34"

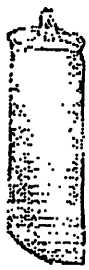
Construction- *Sewn-seam* bags are the most common, economical, and easy to handle. *Heat-welded seam* bags have no needle holes or loose threads that could contribute to fluid contamination.

Micron ratings- *Absolute-rated* filter bags will retain at least 90% of particles of the specified micron size. All other bags will retain particles, but not to an percent efficiency. Often referred to as nominal rate To acheive the desired filtration, select a bag with a micron size smaller than the particles you want to filter.

Bags with a glazed finish have minimal fiber migration (contamination from fiber filter media, such as felt). Filter bags are not reusable, unless noted. T order a filter bag for your housing, use the following tables as a guide.

	Water	Organic Solvents	Petroleum Oils	Alkalies	Organic Acids	Mineral Acids
Polyester	Excellent	Excellent	Excellent	Good	Good	Good
Polypropylene	Excellent	Good	Fair	Excellent	Excellent	Good
Nylon	Good	Excellent	Excellent	Good	Fair	Poor
Nomex	Good	Excellent	Excellent	Good	Fair	Poor

Felt Filter Bags



With Woven Handle

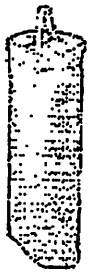
These felt filter bags have sewn construction (except 6835K, which have heat-welded construction) and a glazed finish (except 51635K, which have no finish). **Polyester Felt Bags-** A good general-purpose media bag manufactured with a single layer of felt media. **Heavy Duty Polyester Felt Bags-** Filter heavy metallic particles and extremely viscous liquids such as tar without tearing. Interwoven polyester mesh provides extra strength to hold heavy particles. **Polypropylene Felt Bags-** FDA compliant. **Nomex Felt Bags-** For high temperature applications in the harshest environments.

Bag Size, Dia. x Lg.	Trade Size	Max. Flow, gpm	1 Micron	5 Micron	10 Micron	25 Micron	50 Micron	100 Micron	200 Micron	Each 1-9	Each 10-Up
Polyester Felt Bags with Galvanized Steel Retaining Ring and Woven Polyester Handle- *Max. Temp. is 300°F*											
4 3/32" x 8"	3	25	5162K71	5162K12	5162K81	5162K14	5162K15	5162K16	5162K91	$2.40	$1.88
4 3/32" x 14"	4	50	5162K72	5162K18	5162K82	5162K21	5162K22	5162K23	5162K92	3.08	2.41
5 1/2" x 21"	8	100	5162K73	5162K51	5162K83	5162K53	5162K54	5162K56	5162K93	3.72	2.91
5 1/2" x 32"	9	150	5162K74	5162K61	5162K84	5162K63	5162K64	5162K66	5162K94	6.05	4.16
7" x 16 1/2"	1	100	5162K75	5162K34	5162K85	5162K36	5162K37	5162K39	5162K95	3.72	2.91
7" x 32"	2	220	5162K76	5162K44	5162K86	5162K46	5162K47	5162K49	5162K96	6.36	4.38
8 1/4" x 34"	12	275	5162K57	5162K58	5162K59	5162K87	5162K88	5162K89	5162K97	6.60	5.16
Heavy Duty Polyester Felt Bags with Carbon Steel Retaining Ring- *Max. Temp. Is 325°F*											

With Carbon Steel Retaining Ring

4" x 8 1/4"	3	20	6835K26	6835K27	6835K28	6835K29	6835K31	6835K32	6835K33	3.28	2.89
4" x 14"	4	35	6835K34	6835K35	6835K36	6835K37	6835K38	6835K39	6835K41	3.68	3.23
5 1/2" x 22"	8	60	6835K42	6835K43	6835K44	6835K45	6835K46	6835K47	6835K48	4.08	3.58
5 1/2" x 33"	9	100	6835K49	6835K51	6835K52	6835K53	6835K54	6835K55	6835K56	6.96	6.19
7" x 16"	1	65	6835K11	6835K12	6835K13	6835K14	6835K15	6835K16	6835K17	3.91	3.50
7" x 32"	2	125	6835K18	6835K19	6835K21	6835K22	6835K23	6835K24	6835K25	6.90	6.23
Polypropylene Felt Bags with Polypropylene Retaining Ring and Woven Polypropylene Handle- *Max. Temp. is 200°F*											
4 3/32" x 8"	3	25	51595K11	51595K12	51595K13	51595K14	51595K15	51595K17	51595K18	3.36	2.54
4 3/32" x 14"	4	50	51595K21	51595K22	51595K23	51595K24	51595K25	51595K27	51595K28	4.33	3.06
7" x 16 1/2"	1	90	51595K51	51595K52	51595K53	51595K54	51595K55	51595K57	51595K58	4.96	3.58
7" x 32"	2	180	51595K61	51595K62	51595K63	51595K64	51595K65	51595K67	51595K68	6.78	4.88
Polypropylene Felt Bags with Galvanized Steel Ring and Woven Nylon Handle- *Max. Temp. is 200°F*											
5 1/2" x 20"	8	75	51595K31	51595K32	51595K33	51595K34	51595K35	51595K37	51595K38	5.32	3.91
5 1/2" x 31"	9	90	51595K41	51595K42	51595K43	51595K44	51595K45	51595K47	51595K48	6.16	4.53
8 1/4" x 34"	12	275	51595K71	51595K72	51595K73	51595K74	51595K75	51595K77	51595K78	7.15	5.14
Nomex Felt Bags with Type 304 Stainless Steel Retaining Ring and Woven Nomex Handle- *Max. Temp. is 400°F*											
4" x 8"	3	25	51635K11	51635K12	51635K13	51635K14	51635K15	51635K17	51635K18	7.97	6.37
4" x 14"	4	50	51635K21	51635K22	51635K23	51635K24	51635K25	51635K27	51635K28	9.75	7.80
5 1/2" x 20"	8	75	51635K31	51635K32	51635K33	51635K34	51635K35	51635K37	51635K38	12.31	11.28
5 1/2" x 31"	9	90	51635K41	51635K42	51635K43	51635K44	51635K45	51635K47	51635K48	16.62	15.24
7" x 16 1/2"	1	90	51635K61	51635K62	51635K63	51635K64	51635K65	51635K67	51635K68	14.20	11.36
7" x 32"	2	180	51635K71	51635K72	51635K73	51635K74	51635K75	51635K77	51635K78	24.78	19.83
8 1/4" x 34"	12	275	51635K26	51635K36	51635K46	51635K56	51635K66	51635K76	—	28.21	24.93

Two-in-One High-Capacity Felt Filter Bags



Two bags in one, these high-capacity filter bags have an inner bag, which acts as a prefilter for coarser particles, and an outer bag, which filters finer particles. For example, the 5/1 micron size bags have an inner bag that acts as a prefilter to remove particles 5 microns or larger; an outer bag removes particles 1 micron and larger. As a result, they have 2 to 3 times the life and dirt-holding capacity of conventional felt filter bags. Bags have sewn construction and a glazed finish.

Bag Size, Dia. x Lg.	Trade Size	Max. Flow, gpm	5/1 Micron	10/5 Micron	25/10 Micron	50/25 Micron	100/50 Micron	200/100 Micron	Each 1-9	Each 10-Up
Polyester Felt Bags with Type 304 Stainless Steel Retaining Ring and Woven Polyester Handle- *Max. Temp. is 300°F*										
4 3/32" x 8"	3	25	5726K31	5726K32	5726K33	5726K34	5726K35	5726K36	$4.48	$3.67
4 3/32" x 14"	4	50	5726K41	5726K42	5726K43	5726K44	5726K45	5726K46	5.81	4.72
5 1/2" x 21"	8	100	5726K51	5726K52	5726K53	5726K54	5726K55	5726K56	7.00	5.80
5 1/2" x 32"	9	150	5726K61	5726K62	5726K63	5726K64	5726K65	5726K66	9.04	7.34
7" x 16 1/2"	1	100	5726K11	5726K12	5726K13	5726K14	5726K15	5726K16	7.84	6.13
7" x 32"	2	220	5726K21	5726K22	5726K23	5726K24	5726K25	5726K26	11.20	8.75
8 1/4" x 34"	12	275	5726K71	5728K72	5726K73	5726K74	5726K75	5726K76	15.91	10.94
Polypropylene Felt Bags w/Type 304 Stainless Steel Retaining Ring and Woven Polypropylene Handle- *Max. Temp. is 200°F*										
4 3/32" x 8"	3	25	5783K31	5783K33	5783K34	5783K35	5783K36	5783K37	4.25	3.56
4 3/32" x 14"	4	50	5783K41	5783K43	5783K44	5783K45	5783K46	5783K47	6.16	4.72
5 1/2" x 21"	8	100	5783K51	5783K53	5783K54	5783K55	5783K56	5783K57	7.40	6.13
5 1/2" x 32"	9	150	5783K61	5783K63	5783K64	5783K65	5783K66	5783K67	8.83	7.34
7" x 16 1/2"	1	100	5783K11	5783K13	5783K14	5783K15	5783K16	5783K17	8.17	6.13
7" x 32"	2	220	5783K21	5783K23	5783K24	5783K25	5783K26	5783K27	11.67	8.75
8 1/4" x 34"	12	275	5783K71	5783K73	5783K74	5783K75	5783K76	5783K77	15.91	10.94

RHONE-POULENC FACILTIY
GROUNDWATER EXTRACTION AND TREATMENT SYSTEM
OPERATING RECORDS

Formal operating and maintenance logs and inspections were not documented for on-site operations associated with the groundwater discharge and treatment system from Summer 2003 to April 2004. Due to a sustained craft labor presence on the site, maintenance and inspection activities were performed incidental to ongoing site activities and no documentation specific to system maintenance and inspection was generated. Maintenance and inspection activities included the checking of gauges and flow meters and visual inspection of system components. During this period, system operation and maintenance was discussed routinely between RCIE and its consultants and subcontractors at meetings held at both on-site and off-site locations.

A Site Operation, Monitoring, Inspection, and Maintenance Plan was finalized and submitted to EPA in April 2004. A formal inspection and maintenance process commenced at this time.

The following is a general summary of O&M activities.

SUMMER 2003 to APRIL 2004

The groundwater extraction and treatment system was started on August 4, 2003. A discharge permit from the King County Industrial Waste Program was previously issued with an effective date of May 14, 2003. The original permit authorized a discharge of 15,000 gallons per day. RCIE requested an increase discharge to 30,000 gallons per day on September 15, 2003 due to mechanical difficulties associated with the startup and commissioning of the pretreatment system. King County approved the request to December 9, 2003. RCIE requested a second extension in December 2003 which the County also approved to March 9, 2004. The second extension request was necessary due to continuing mechanical problems and record rainfall at the site. On February 17, 2004 RCIE requested a modification to the discharge permit. This modification was a request to discharge at 75 gpm and to use the on-site steel tank as temporary storage. The County approved this request to March 9, 2004. On April 1, 2004 RCIE submitted an application for a new discharge permit requesting a discharge rate of 45 gpm. The County is currently reviewing the permit application and has approved the 45 gpm discharge rate in the interim during the review process.

RCIE has submitted four quarterly self-monitoring reports to King County. The reported flows are in the table below.

Date	Flow (Gallons)	Date	Flow (Gallons)
Aug. 2003	85,463	Dec. 2003	651,744
Sept. 2003	336,823	Jan. 2004	624,960
Oct. 2003	522,228	Feb. 2004	470,220
Nov. 2003	295,032	Mar. 2004	879,943

Analytical results from all discharge sampling/analysis fell well below King County discharge criteria. Analytical data has been included in this submittal.

Based on a review of our labor records, during the Summer 2003 to April 2004, RCIE had the equivalent of one full time person at the site performing miscellaneous construction work and groundwater discharge and treatment system operation, maintenance, and inspection.

On October 31, 2003 a major shut down of the system occurred. The pumping system at the existing on-site pump station failed. This pump station is used to pump discharge from the pretreatment system to the County sewer system. The pretreatment system remained operable, but this failure precluded discharge to the County sewer system. This pump station was repaired and discharge resumed on November 18, 2003. Several other minor shut downs have occurred, but none of these shut downs were for extended periods.

APRIL 5, 2004 TO PRESENT

In conjunction with submitting the Site Operation, Monitoring, Inspection, and Maintenance Plan, in April 2004 RCIE began maintaining weekly inspection reports for the groundwater discharge and treatment system.

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	—
Bag Filter	Y	—
GAC Units	Y	—
Pressure Gauges/Flow Meters	Y	—

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading		
EX-1 Flow (Inst./Total)	gpm/gallons	9.3	1,219,542 / ~~794,325~~	KLD
EX-2 Flow (Inst./Total)	gpm/gallons	—	— / —	NOT RUNNING
EX-3 Flow (Inst./Total)	gpm/gallons	—	— / —	" "
Filter Influent Pressure	psi 2.0	—		
Lead GAC Influent Pressure	psi 14	—		
Lead GAC Effluent Pressure	psi N/A	—		

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	10:05	9.16
Water Level – DM-8	Feet	10:05	-1.3
Water Level – MW-49	Feet	10:10	-.462

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	—
Lead GAC Effluent	FOG, BTEX	—
Lag GAC Effluent	FOG, BTEX, pH	—

Date of Visit: 4/7/04

Field Representative (Print and Sign): KDRESSEN / Ken Dresden

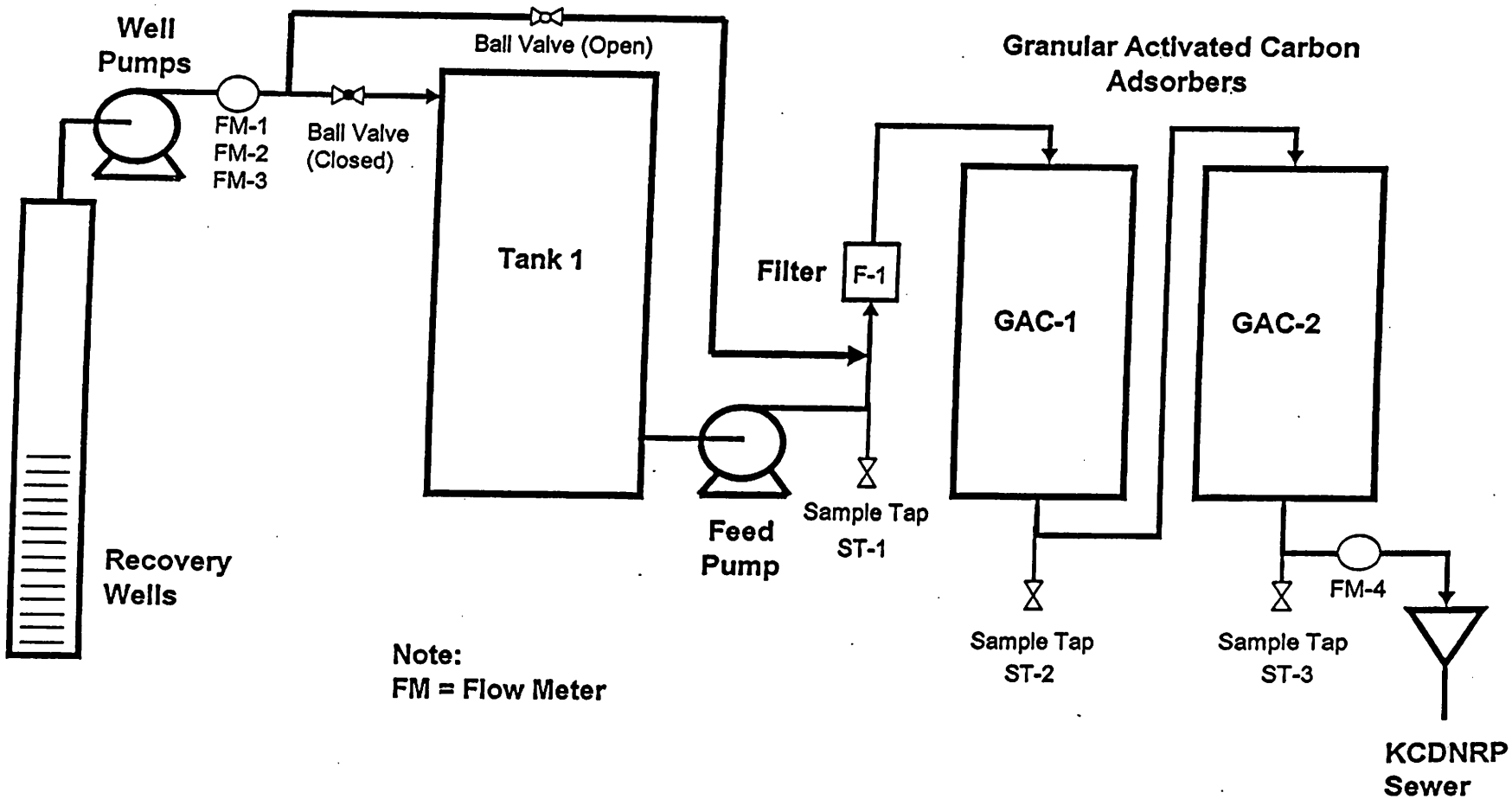
Maintenance Issues Resolution Form

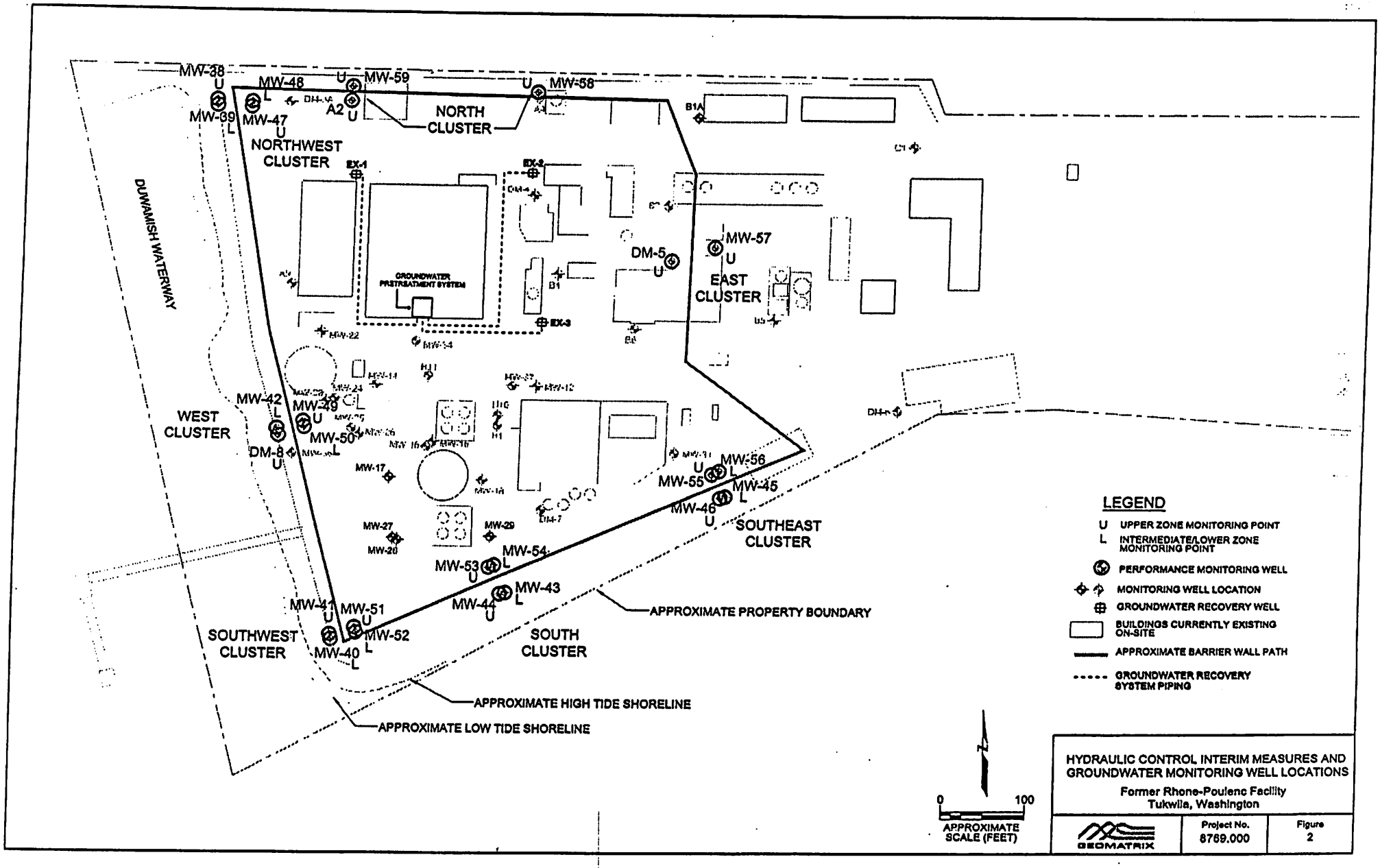
Maintenance Issue (Attach Supporting Information as Needed)
EX1, EX2 NOT RUNNING. TEMP FENCE REPAIRS IN FEW LOCATIONS
Resolution (Attach Supporting Information as Needed)

Responsible Party (Print and Sign): K. DRESSEN / Ken Dressen

Date: 4/7/04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

Treatment System Inspection Log

Visual Inspection (Perform Weekly)

Item	Inspected (Y/N)	Condition (Cracks, leaks, non-operational gauges, etc.)
Above Ground Piping	Y	—
Bag Filter	Y	—
GAC Units	Y	—
Pressure Gauges/Flow Meters	Y	—

If problems noted, complete and attach a maintenance resolution form.

System Operation Measurements (Perform Weekly)

Item	Units	Reading	
EX-1 Flow (Inst./Total)	gpm/gallons	9.1	/ 1,140,623
EX-2 Flow (Inst./Total)	gpm/gallons	—	/ — NOT RUNNING
EX-3 Flow (Inst./Total)	gpm/gallons	—	/ — NOT RUNNING
Filter Influent Pressure	psi 2	—	
Lead GAC Influent Pressure	psi 15	—	
Lead GAC Effluent Pressure	psi —	—	

Data Recorder Readings and Download (Perform Weekly, Download Monthly)

Item	Units	Time	Reading
Treatment System Flow	gpm	11:30	9.17
Water Level – DM-8	Feet	11:35	-1.4
Water Level – MW-49	Feet	11:35	-.48

Data Downloaded (Y/N): N Data Converted to Excel (Y/N): N

Water Quality Sample Collection (Perform Monthly)

Samples Collected (Y/N): N

Location	Analyses (Circle)	Sample Date and Time
Filter Influent	TSS, FOG, BTEX, pH	
Lead GAC Effluent	FOG, BTEX	
Lag GAC Effluent	FOG, BTEX, pH	

Date of Visit: 4/19/04

Field Representative (Print and Sign): K PRESSEY / Kent Pressey

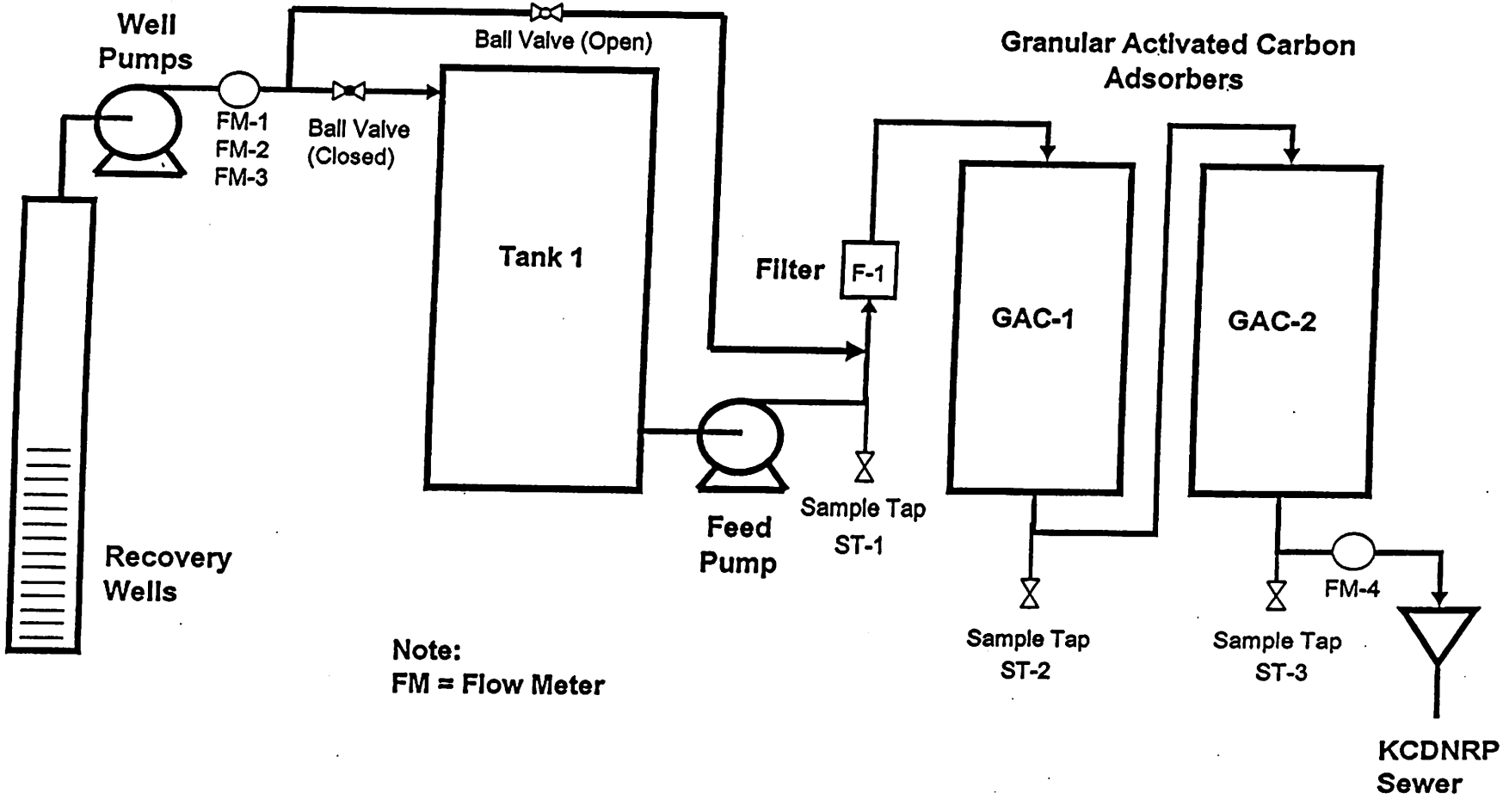
Maintenance Issues Resolution Form

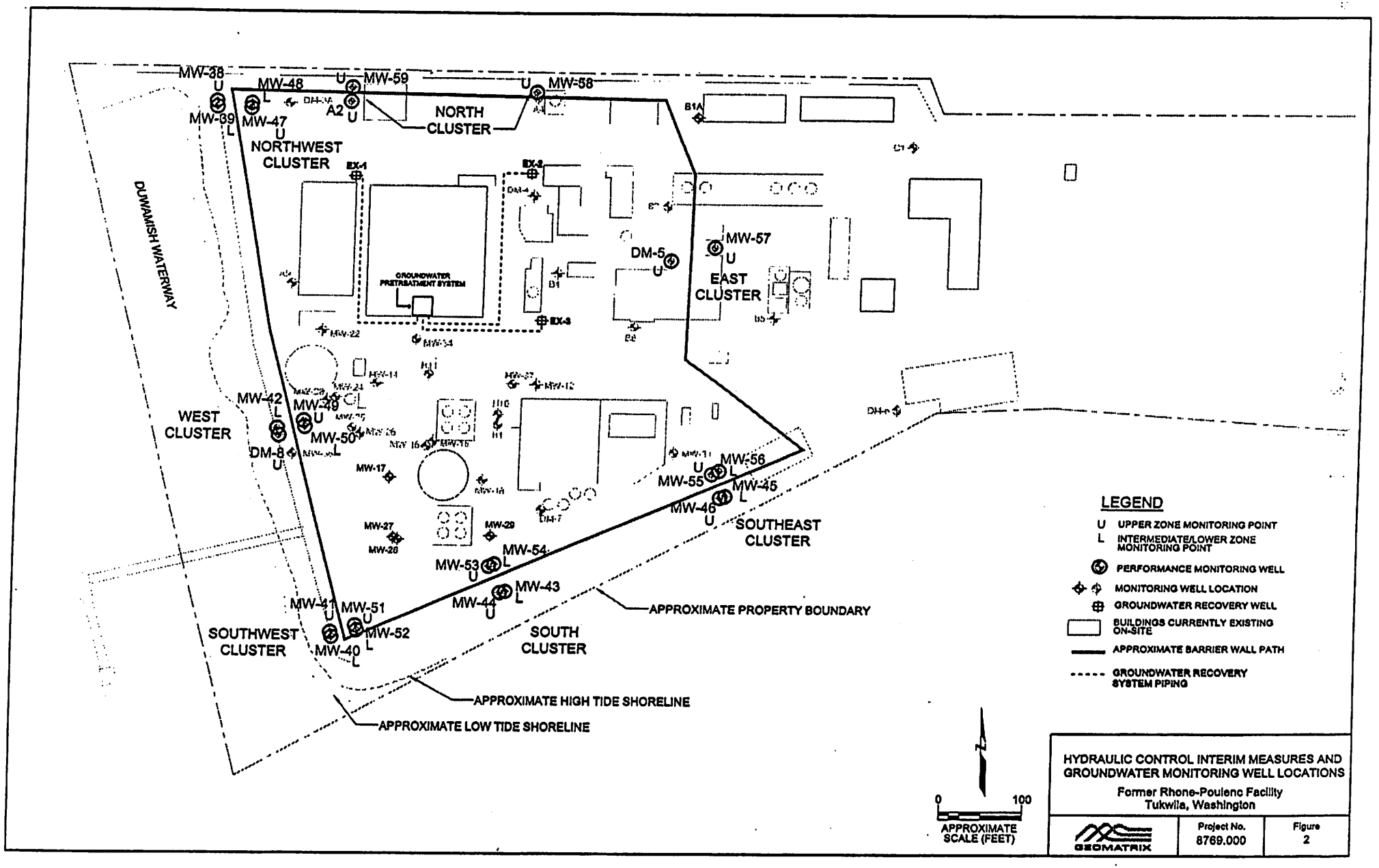
Maintenance Issue (Attach Supporting Information as Needed)
REPAIRS TO TEMP. FENCE
Resolution (Attach Supporting Information as Needed)

Responsible Party (Print and Sign): K. DRESSEN / [signature]

Date: 4/14/04

FIGURE 3
SCHEMATIC FLOW DIAGRAM
FORMER RHONE-POULENC SITE
GROUNDWATER RECOVERY AND TREATMENT SYSTEM





HYDRAULIC CONTROL INTERIM MEASURES AND GROUNDWATER MONITORING WELL LOCATIONS

Former Rhone-Poulenc Facility
Tukwila, Washington

GEOMATRIX	Project No. 8769.000	Figure 2

system was constructed and being operated in compliance with the approved workplan, entitled "Interim Measures Construction Workplan" dated October 25, 2002.

Introduction/Inspection Findings:

The facility is located at 9229 East Marginal Way in Seattle, Washington. The facility is composed of one large warehouse and one remaining 300,000 gallon above ground storage tank. Several areas of rubble and brush also exist at the site. The large warehouse contains a groundwater treatment system being operated as part of the interim measure implemented at the site in the summer of 2003. The barrier wall and associated groundwater treatment system were installed during the summer of 2003 as required by the Order as an interim measure to control migration of contaminants off site.

I arrived at the facility at approximately 9:30 a.m. accompanied by Ms. Sylvia Burges and Mr. Marion ("Doc") Thompson ("Inspection Team"), both of the EPA. The front gate was open and I observed an RCI truck fueling a generator near the main building. We proceeded to the main building. We did not observe the representative from RCI Environmental (Mr. Kurt Dressen) on site at this time. The inspection team noticed that the generators emitted black smoke once they had been refueled and restarted.

At approximately 9:55 a.m. Mr. Kurt Dressen, RCI Project Engineer, arrived. The inspection team presented their credentials to Mr. Dressen and advised him that we were there to conduct an inspection of the groundwater extraction and treatment system. I asked Mr. Dressen how often RCI Environmental inspected the system. Mr. Dressen stated that either he or another RCI employee named John Ambrose inspected the system weekly and updated a maintenance log as required. I asked Mr. Dressen how long they had been utilizing the mobile generators. Mr. Dressen stated that they had been using them for several months due to a transformer malfunction. I advised Mr. Dressen that we would begin the inspection by looking at the well heads and then move into the building to observe the groundwater treatment system.

The inspection team then proceeded to extraction well number 2, labeled EX-2 (photo 1 and 2). Within the well box I observed a well head with one 1-inch PVC outgoing line. The outgoing line became a 2-inch line approximately six inches from the well head (photo 2). Approximately 18 inches from where the line became a 2-inch line a check valve was installed (photo 2). Approximately six inches beyond the check valve, the 2-inch line split into two 2-inch lines (photo 2). Both of the 2-inch lines had ball valves installed within 12 inches of the check valve. One 2 inch lines was labeled "by" and the other 2 inch line labeled "from". When asked, Mr. Dressen stated that both lines went to the groundwater treatment system and that they had installed two lines in case one failed. Two conduit boxes were observed within the well box, but only one was attached to the well head (photo 2). When asked, Mr. Dressen was not sure why only one was attached, but stated that one of the boxes might be a relic from a previous design phase. The valve on the "from" line was open but the valve on the "by"line was closed. The inspection team could not detect any water going through the lines.

From this point the inspection team headed west to extraction well 3, labeled EX-3 (photo 3 and

4). EX-3 was designed similarly to EX-2 but did not have a check valve installed within the 2 inch line (photo 4). Furthermore, EX-3 had both conduits attached to the top of the wellhead (photo 4). The valve on the "by" line was closed and the valve on the "from" line was open on this well. No water could be detected running through the system at the time of the inspection.

From EX-3 the inspection team proceeded to extraction well 1, labeled EX-1 (photo 5). EX-1 had the exact same set up as EX-2, with the only exception being that both valves ("by" and "from") were open. EX-1 had only one conduit attached to the top of the wellhead similar to EX-2. No water could be detected running through the system at the time of the inspection.

After inspecting EX-1, I asked Mr. Dressen about PVC piping originating from the above ground storage tank on site (see attachment 1). Mr Dressen stated that early in the start up process of the groundwater treatment system, RCI had utilized the above ground storage tank as a surge tank for the system. According to Mr. Dressen, water was treated by the system, pumped out into the above ground storage tank, and then pumped to the King County Sewer Lift Station from the above ground storage tank. Mr. Dressen stated that the treated water was tested before it was put into the lift station. Mr. Dressen confirmed that the lines had been partially removed between the treatment system and the above ground storage tank and that they no longer routed water to the lift station using the above ground storage tank.

The inspection then proceeded into the main building to observe the groundwater treatment system (photo 6). The inflow and outflow lines can be seen on the right side of photo 6. I observed seven 2-inch schedule 80 PVC lines used as the inflow and outflow lines for the system. Mr. Dressen explained that each well had two lines, one "primary" and one "secondary" line (photo 7). These lines correspond with the "by" ("secondary") and "from" ("primary") lines observed within the wellheads. Each primary incoming line had a flow meter attached to it (photo 8 and 9). None of the flow meters registered any flow. The other line observed was the "process" line which delivers treated water from the treatment system to the King County Sewer Lift Station (photo 7). The incoming lines merge into one 2-inch PVC line and then via one of two bag filters (photo 10 - silver canister) lead into the first of two carbon treatment units (photo 6 and 11 - green and white tank) set up in series (green tank is first in series). Mr. Dressen stated that the treated water was then sent through the "process" line back to the lift station. I asked Mr. Dressen if the system was currently operating. Mr. Dressen stated that the system had been shut down because the head differential between the control wells was at approximately 2.5 feet, much higher than the 1 foot head differential required by the Order (Of note, the system had been operating the previous day during the field inspection conducted by EPA). Mr. Dressen was asked to identify the sampling ports on the system, and after several minutes, was able to show the team the location of the sampling ports. I asked Mr. Dressen about the "sink" which appeared hard plumbed into the system (photo 10, 12 and 13). Mr. Dressen stated that the "sink" was installed when RCI had re-engineered the system as a way of introducing purged well water into the treatment system. Mr. Dressen further stated that they had installed two pumps to pump the water out of the sink and into the treatment system. I observed a dark brown liquid within the sink (photo 12).

At this point I asked Mr. Dressen what he meant about "re-engineered" the system. Mr. Dressen

stated that RCI had needed to modify the system to increase groundwater treatment volumes. Mr. Dressen stated that RCI had modified the system about 6 months prior this inspection. During the redesign, it appears that RCI had added the bag filters, removed the surge tank, added the "sink", removed the nitrogen blanket, and upgraded the carbon tanks. The current system is not the approved system nor does it appear to be a comparable system due to the removal of the surge tank, autodailer (see below), nitrogen blanket, and the addition of the sink, a system that facilitates the evaporation of U220 into the atmosphere.

At about this time (10:15 a.m.) Mr Peter Wold, President of RCI Environmental, arrived. I advised Mr. Wold that it appeared that the system that had been approved by EPA had not been installed. Mr. Wold stated that was correct. Mr. Wold stated that it had been necessary to redesign the groundwater treatment system to accommodate a higher flow rate. I asked Mr. Wold if he had received written approval to modify the approved system. Mr. Wold stated that they had not received written permission from the EPA, but that Ms. Christy Brown, Project Manager for EPA, had been informed of the plans to modify the system through informal consultations and the monthly progress reports. Mr. Wold stated that this system modification did not require formal approval since the concept was the same and that installation of the system was a "voluntary measure" on the part of the responsible parties. Mr. Wold further stated that the system was turned off so that Geomatrix, consultant for RCI, could better characterize the rate of leakage through the aquitard. Mr. Wold also confirmed that the above ground storage tank had been utilized when the King County Sewer Lift Station had gone down earlier in the year. Mr. Wold stated that since they had installed the generators to run the pump station and groundwater treatment system, the above ground storage tank was no longer utilized.

The inspection team then moved to the Programable Logic Controller ("PLC"). I observed a Honeywell Messenger 550 Remote Monitoring and Control System (photo 14 and 17) mounted on the front of the electronics panel. Adjacent the Honeywell Messenger I observed a Siemens Simatec ST-300 display panel (photo 15 and 17). After observing these two displays, Mr. Dressen opened the front so we could inspect the interior of the control panel (photo 16). I asked Mr. Dressen and Mr. Wold if an autodialer had been installed. I was advised that the autodailer was not currently installed and was being worked on by the IT consultant for RCI. I asked Mr. Dressen and Mr. Wold how would they be notified if an alarm went off. I was advised that an alarm would be discovered during the weekly inspections or possibly every third day when the fueler came out to fuel up the generators. The system appeared to have the approved power supply and proper wiring within the system.

Upon completing the inspection of the PLC, the team moved out of the building toward the King County Lift Station. Mr. Wold explained that they had previously experienced some problems with vandals at the site stealing copper wire and also problems with the Lift Station failing. This had led to the installation of the generators to run the pump station and treatment system. I asked Mr. Dressen how the monitored the flow into the pump station from the treatment system. Mr. Dressen stated that the flow was calculated off of the monitors currently installed on the incoming flow lines from the wellhead. The inspection team arrived at the pump station and noticed that the main breaker for the pump station had its control armed sheared off, which would preclude the ability to manually shut down the pump station unless you turned off the

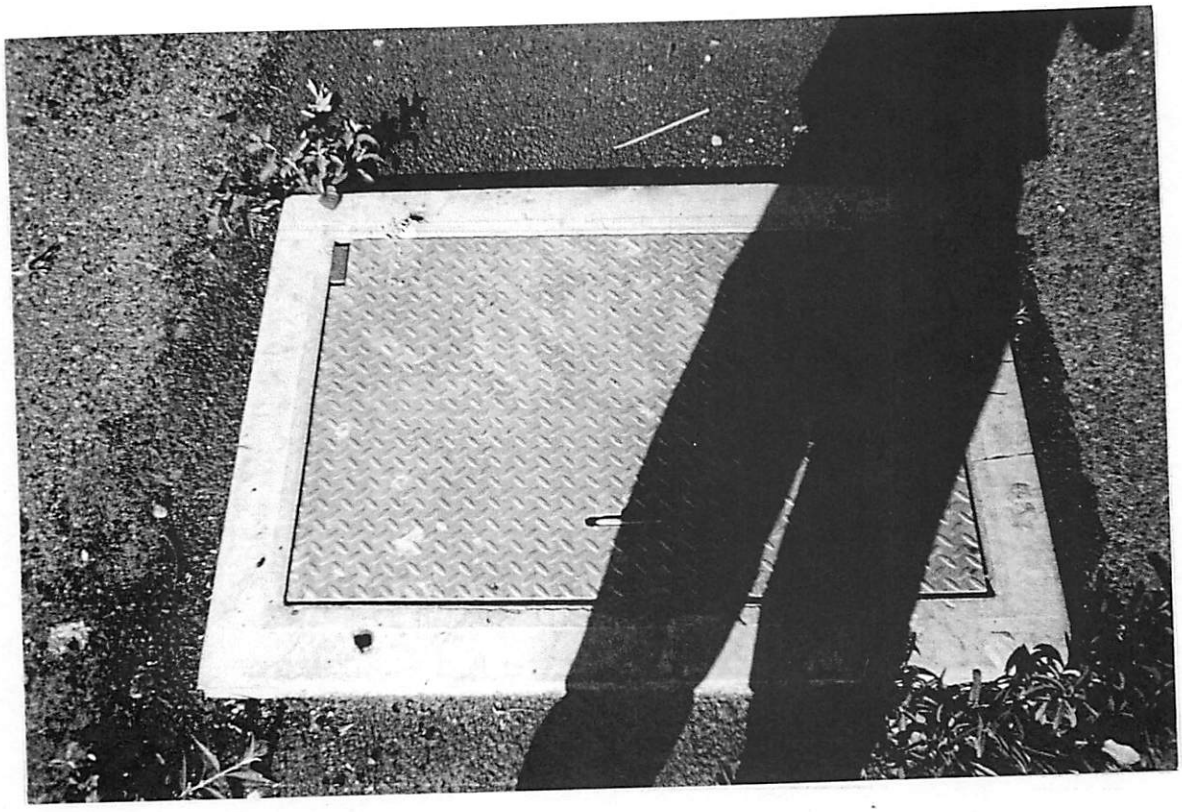
generator. At this time I lifted the cover of the lift station and noticed that the water level was only a few feet below the top, at least 6 to 8 feet higher than observations made during the previous day, indicating that the station wasn't currently operating. At this point I asked Mr. Dressen to provide me with his operating log. A review of the sites operating log indicated the following information:

4/28/04 - system operating, discharging 9.3 g.p.m.
5/12/04 - system operating, discharging 3.31 g.p.m.
5/19/04 - system operating, discharging 18.65 g.p.m.
5/26/04 - system operating, discharging 18.92 g.p.m.
6/11/04 - system off
6/16/04 - system off
6/23/04 - power failure on 6/22/04
6/30/04 - system off
7/08/04 - system operating, discharging approximately 33 g.p.m.
7/16/04 - system off
7/22/04 - system off
7/29/04 - system off
8/13/04 - system off
8/17/04 - system operating, discharging 11.33 g.p.m.

Upon completion of reviewing the operating logs, Mr. Wold was asked regarding the observed gaps in the fence (gaps in the fence in excess of ten feet were observed in three locations - NE corner, SE corner, and along the southern fence line). Mr. Wold stated that the fence kept blowing down. Mr. Wold also stated that several good sales prospects had emerged for the land and was hoping to propose a "splitting" of the property to allow the "uncontaminated" portion of the site to be sold. Mr. Wold also stated that RCI was just waiting for the media cleanup standards to be decided before the could finish the CMS. I then advised Mr. Wold and Mr. Dressen that the inspection was concluded and requested that Mr. Wold provide me the following information:

1. Copies of all operating manuals for any equipment installed that wasn't approved.
2. Copies of all operating logs.
3. Copies of as built diagrams.

I then advised Mr. Wold that we would be providing our findings to Ms. Brown and to direct any questions he may have to Ms. Brown. We then departed that site at approximately 12:00 p.m.



1. EX-2.

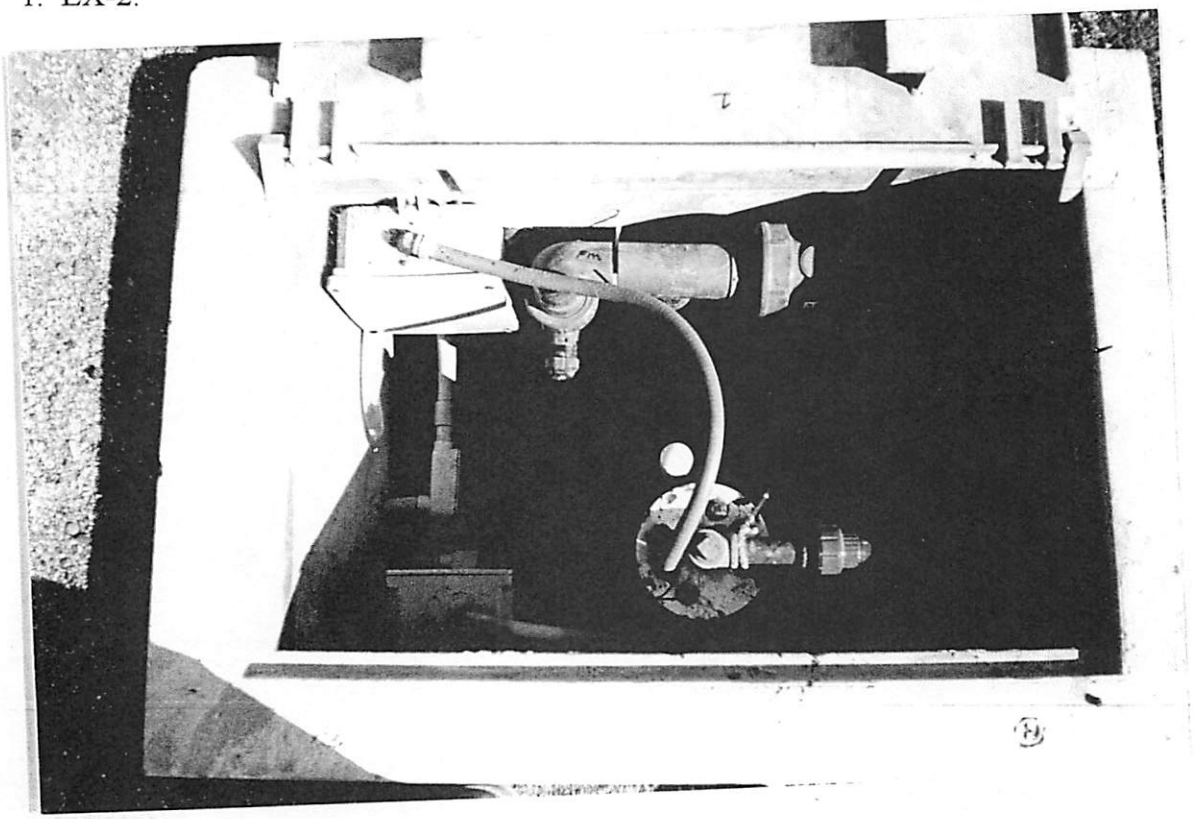
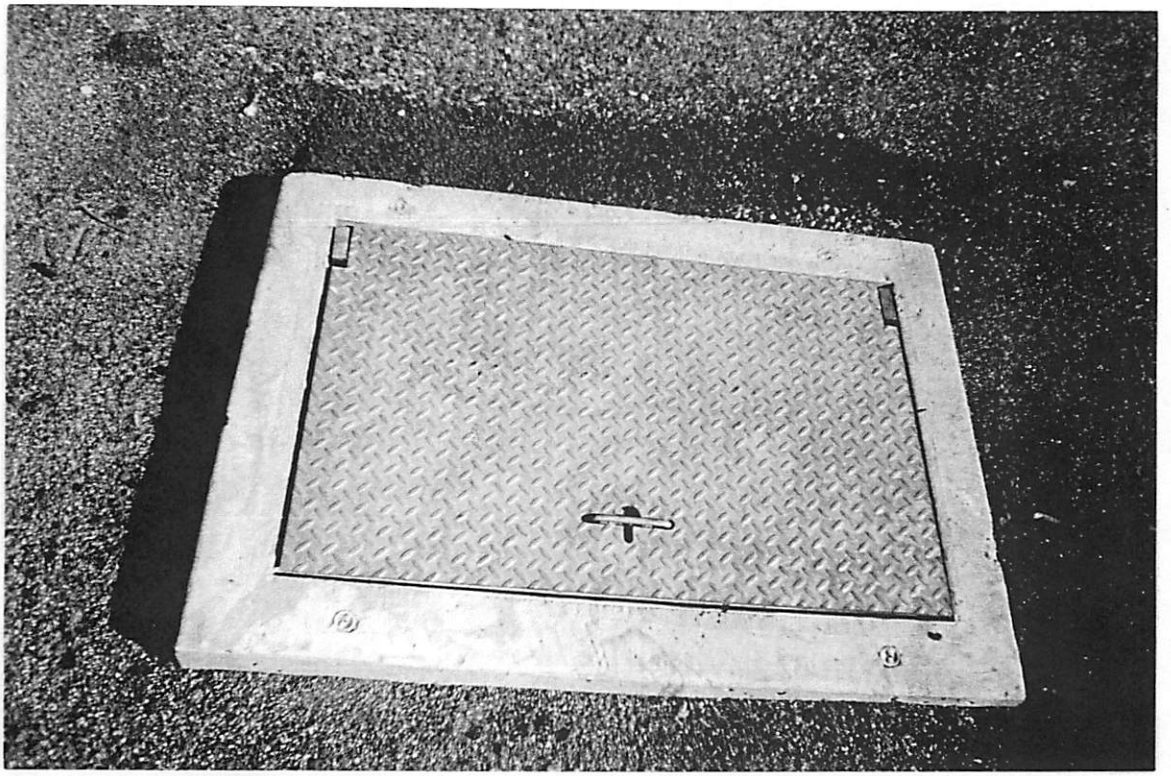


Photo 2. EX-2.
Photo taken by Shawn Blocker, U.S. EPA
8/18/2004



3. EX-3.

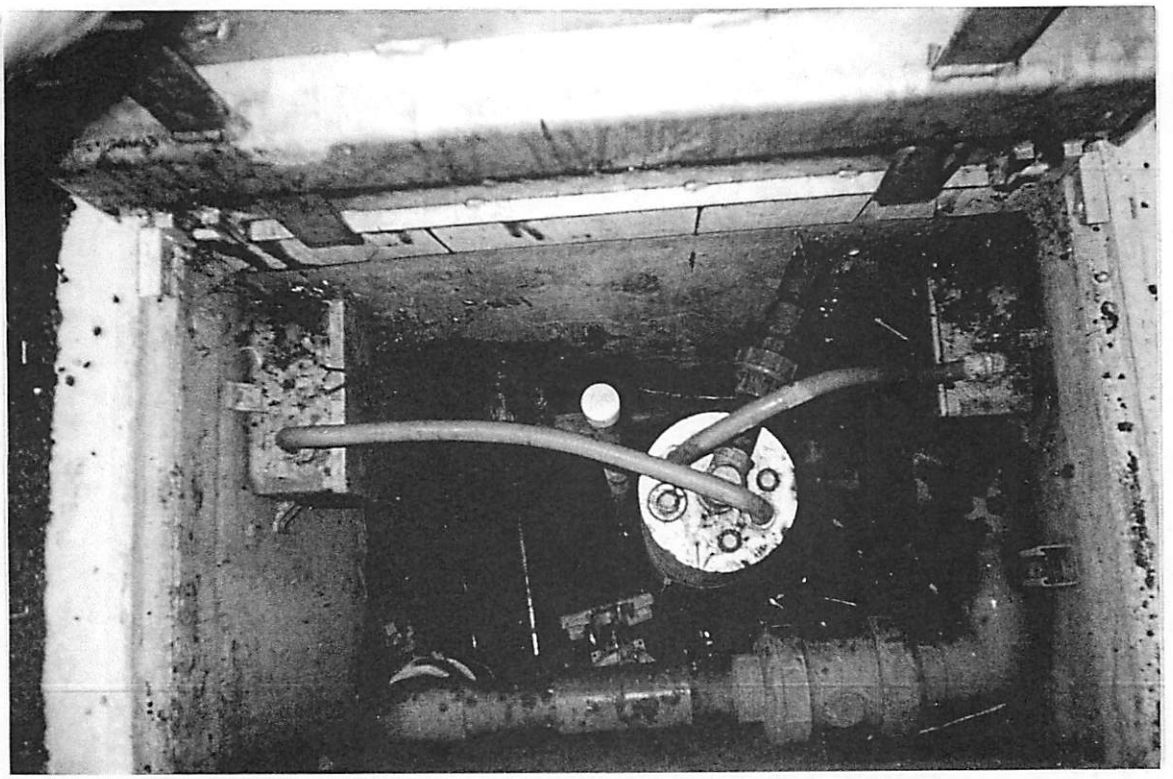
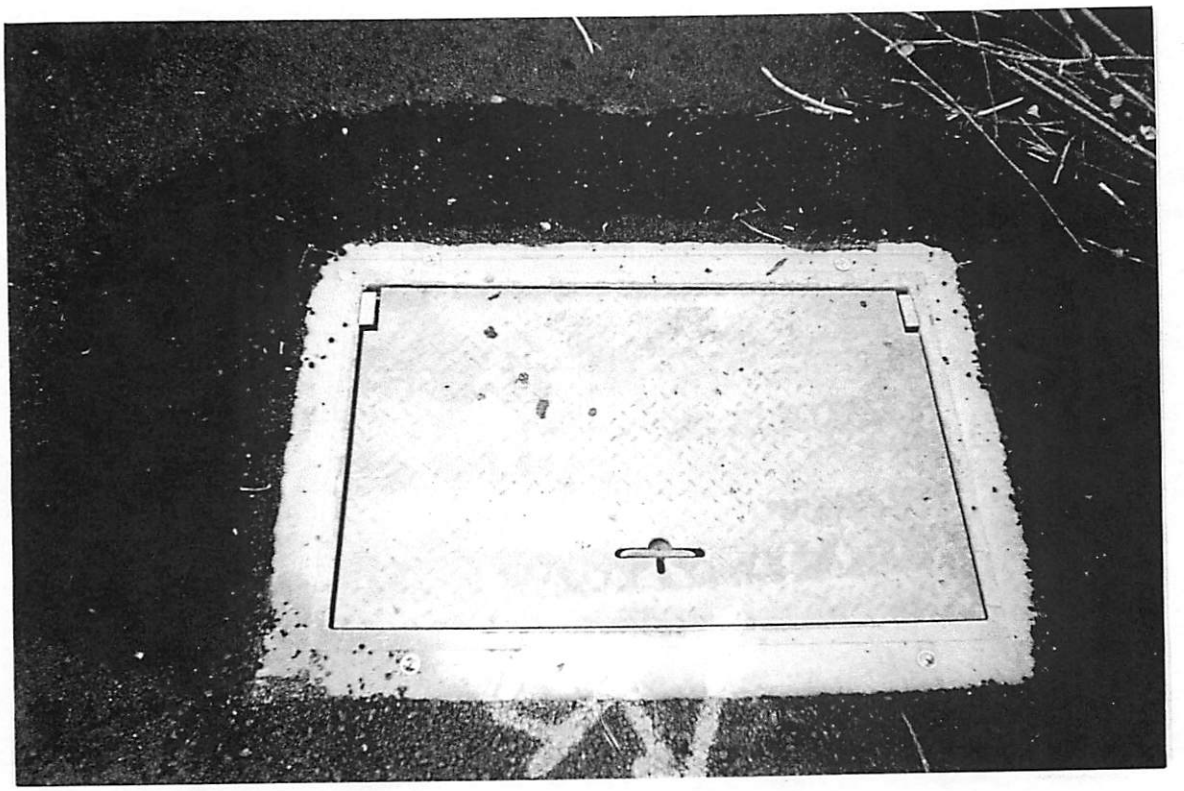


Photo 4. EX-3.
Photo taken by Shawn Blocker, U.S. EPA
8/18/2004



5. EX-1.

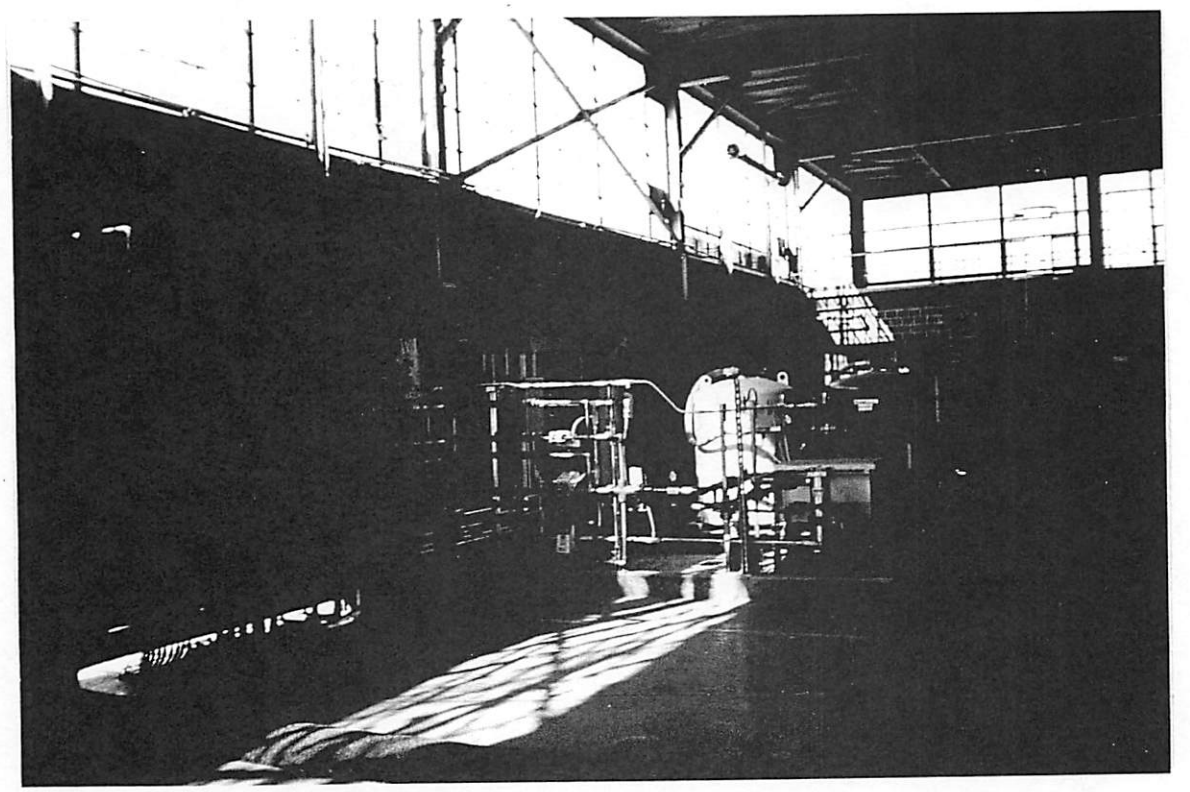
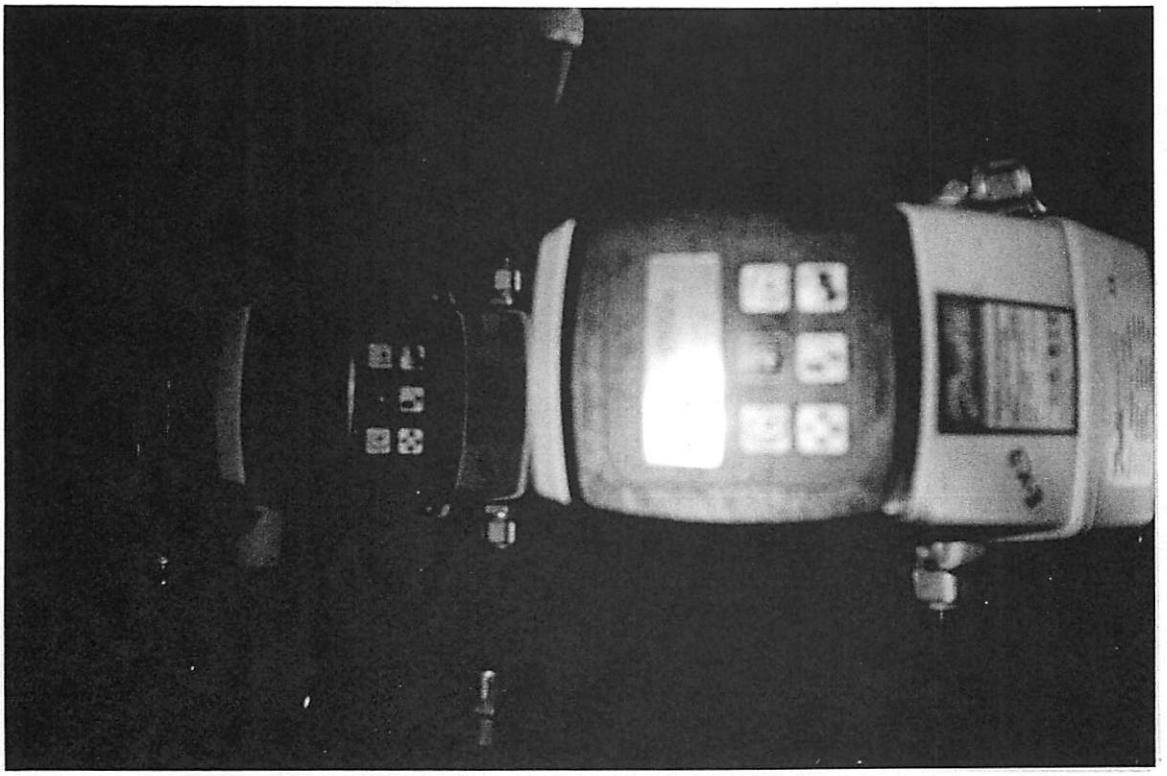


Photo 6. Groundwater treatment system.
Photo taken by Shawn Blocker, U.S. EPA
8/18/2004

7. Incoming/outgoing water lines.

Photo 8. Flow meter on incoming line.
Photo taken by Shawn Blocker, U.S. EPA
8/18/2004



9. Flow meter on incoming line.

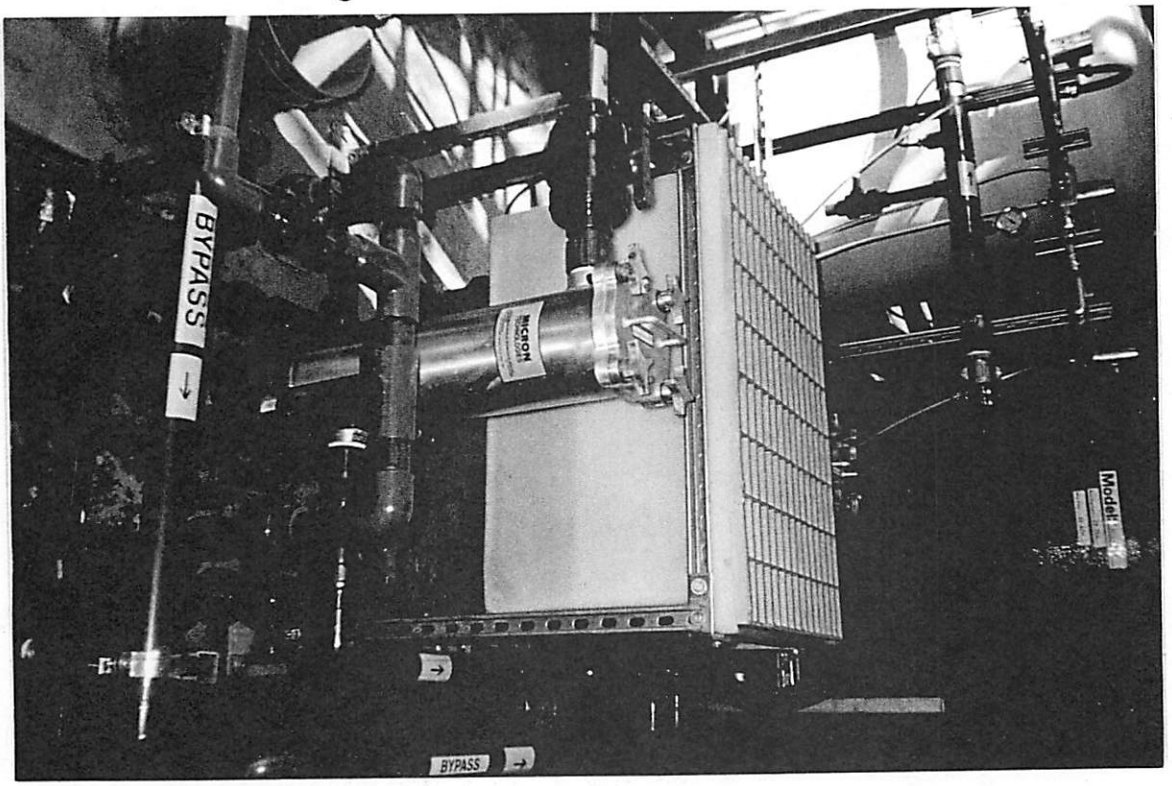
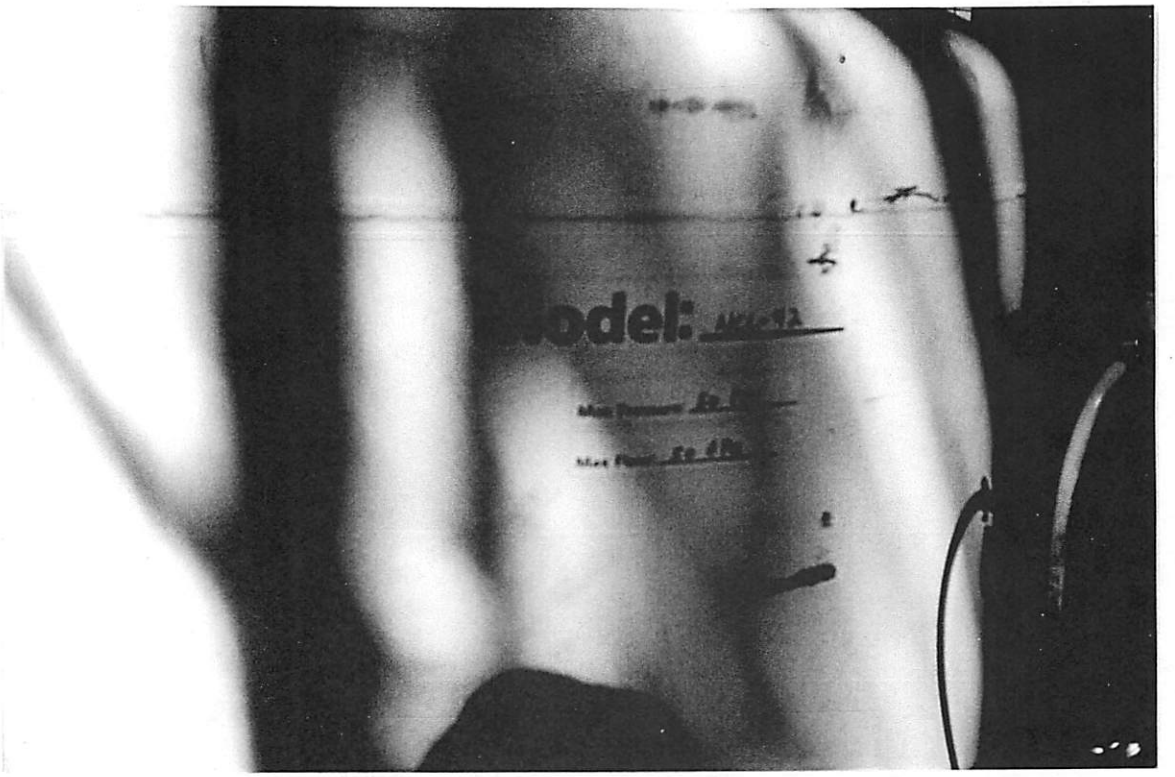


Photo 10. Bag Filter (silver canister) and white "sink".
Photo taken by Shawn Blocker, U.S. EPA
8/18/2004



11. Carbon tank.

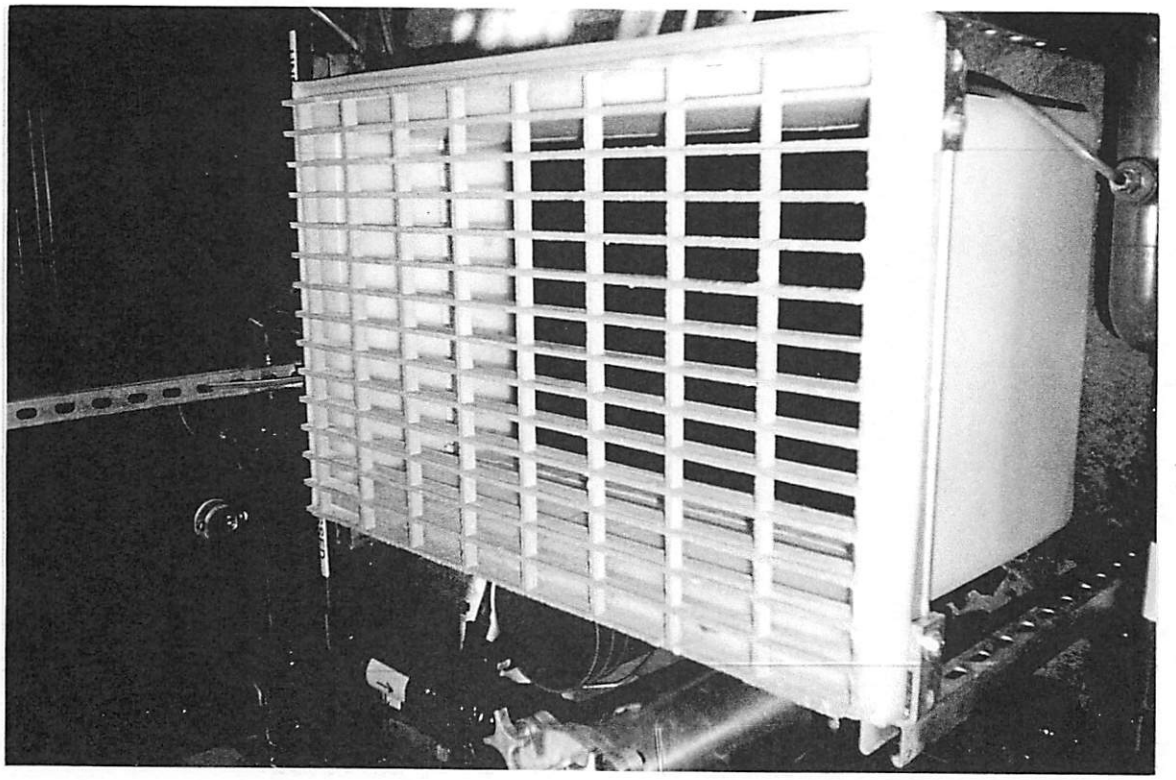
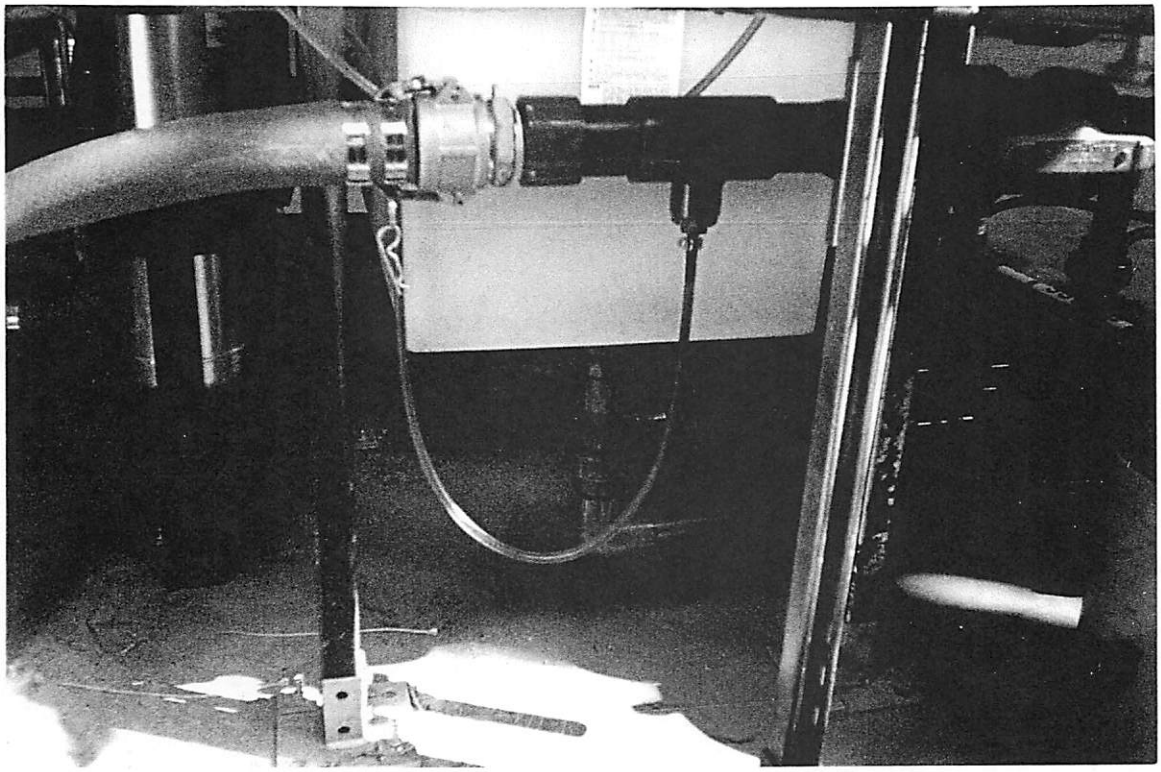
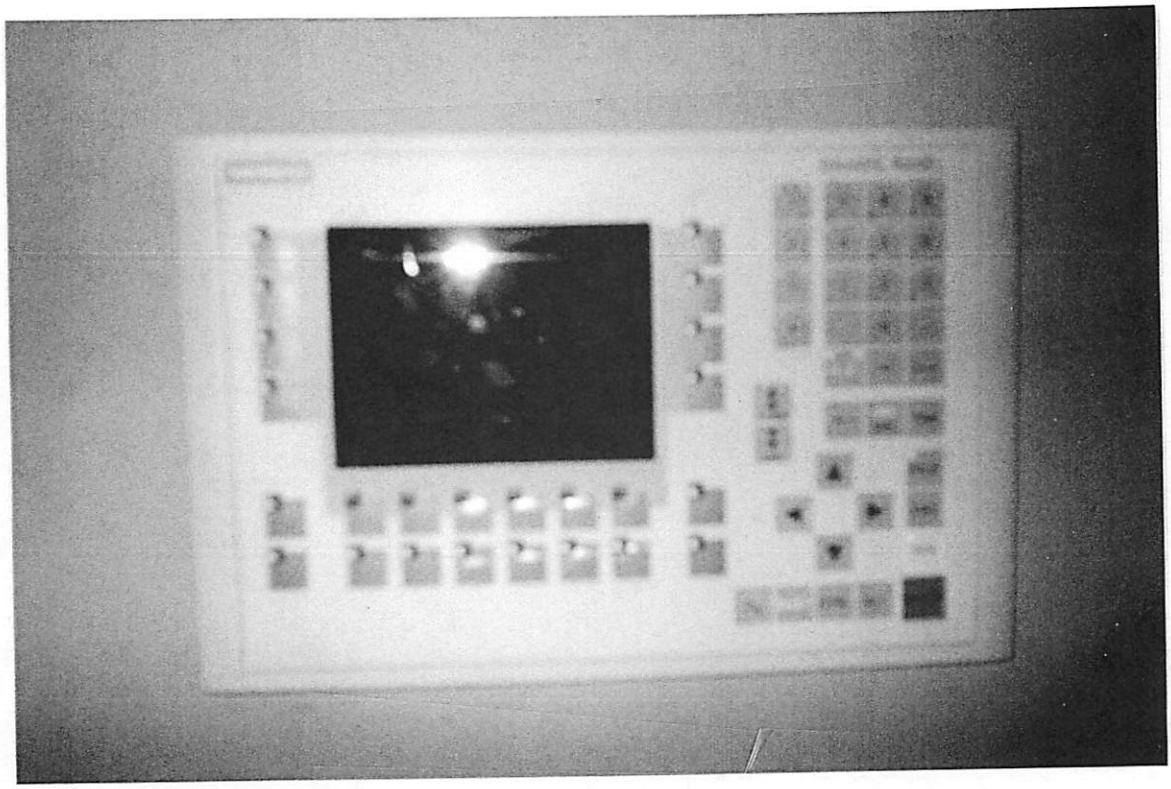


Photo 12. White sink with dark liquid.
Photo taken by Shawn Blocker, U.S. EPA
8/18/2004



13. Bottom of sink - note hard-plumbing to two pumps.

Photo 14. Honeywell Messenger 550 Remote Monitoring and Control System display.
Photo taken by Shawn Blocker, U.S. EPA
8/18/2004



15. Siemens Simantec ST-300 display panel..

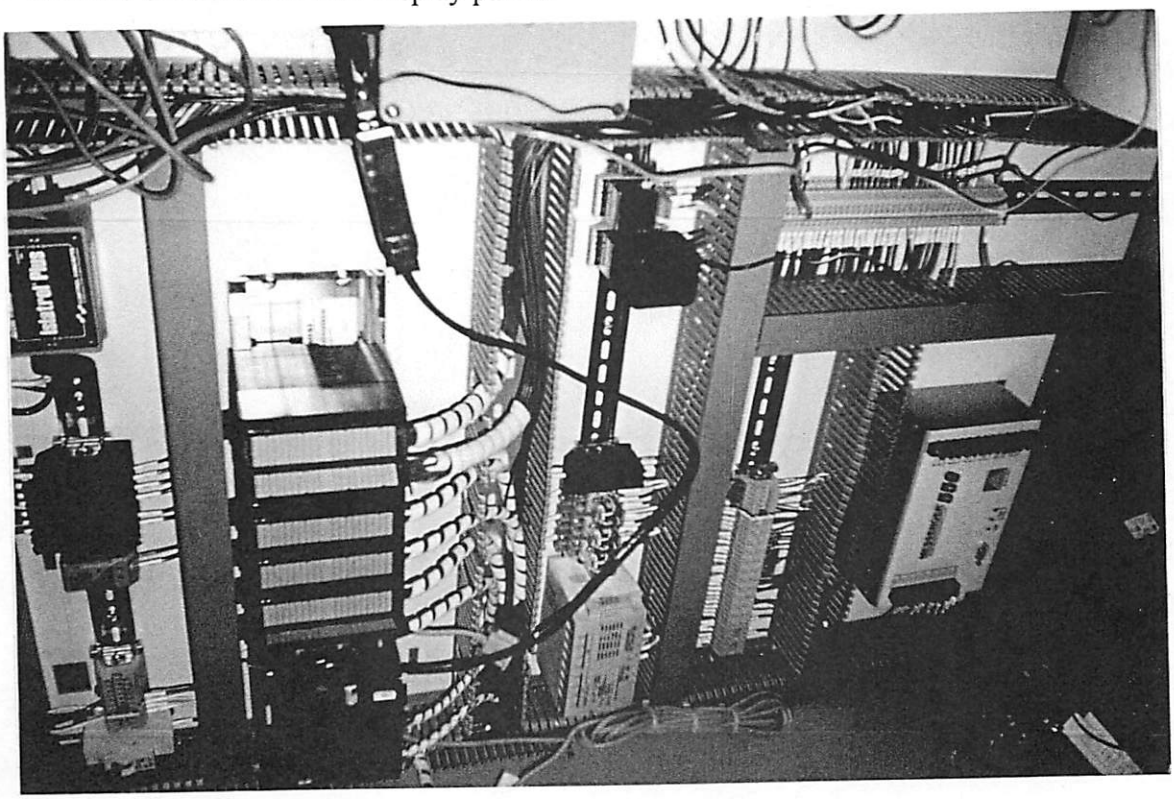
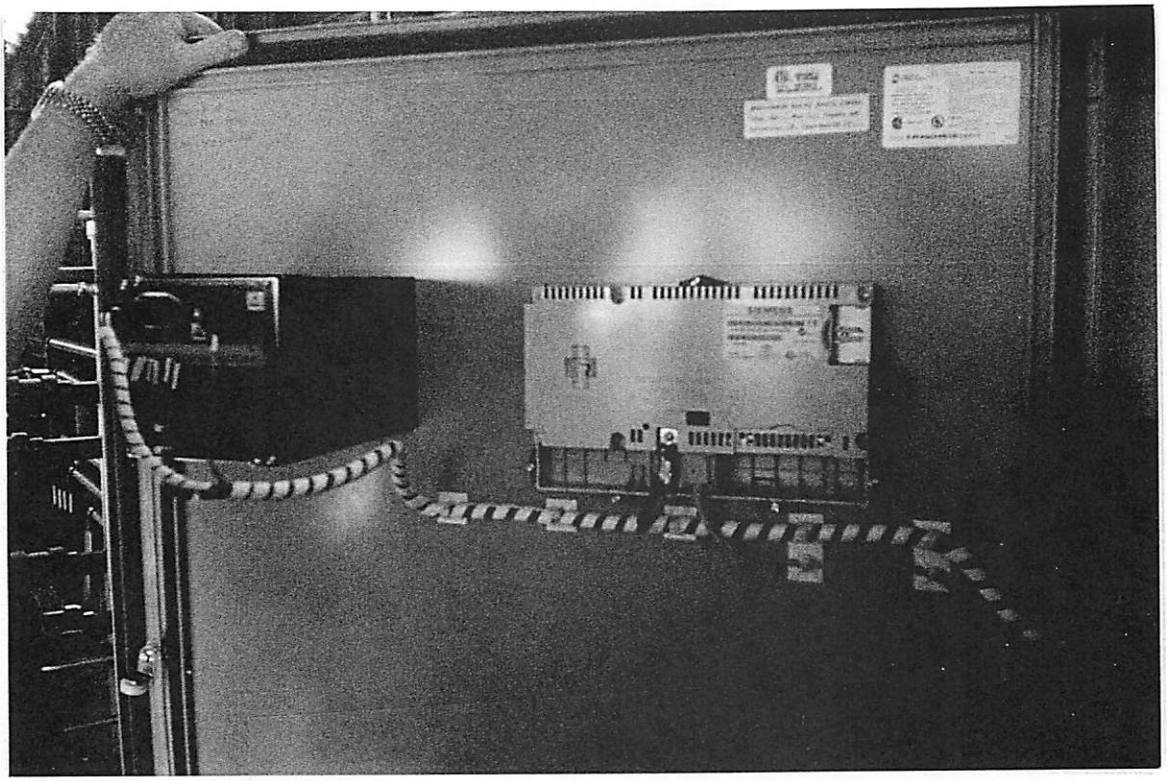


Photo 16. Interior of control panel.
Photo taken by Shawn Blocker, U.S. EPA
8/18/2004



17. Back of Honeywell and Simantec displays.
Photo taken by Shawn Blocker, U.S. EPA
8/18/2004

WAD 230Z
9/9/04
6(a)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

RCRA Corrective Action Order Compliance Report

Facility Name:	Former Rhone Poulenc Facility
Facility EPA ID#:	WAD 009282 2302
Facility Location:	9229 East Marginal Way Seattle, WA
Facility Representatives:	John Ambrose, RCI Environmental Tasha Grey, Geomatrix Sarah Ruston, Geomatrix
Date of Inspection:	August 17, 2004
Date of Report:	September 9, 2004
Report Prepared by:	Shawn Blocker, 9/9/04
Inspector(s):	Shawn Blocker, Environmental Scientist US Environmental Protection Agency 1200 Sixth Avenue, WCM-126 Seattle, WA 98101

Authority:

The United States Environmental Protection Agency (EPA) performed this Corrective Action Order Compliance Inspection of groundwater monitoring operations in support of an Administrative Order On Consent under section 3008 (h) of the Resource Conservation and Recovery Act (RCRA) between the Respondents for the Former Rhone Poulenc, Inc., facility and the U.S. EPA ("Order"). Specifically, compliance with the requirements for field groundwater elevation measurements as stipulated in the above referenced Order were observed during this inspection.

Introduction/Inspection Findings:

The facility is located at 9229 East Marginal Way in Seattle, Washington. The facility is composed of one large warehouse and one remaining 300,000 gallon above ground storage tank. Several areas of rubble and trash are also located on site. The large warehouse houses a groundwater treatment system required to be constructed as part of an interim measure

ATTACHMENT 1

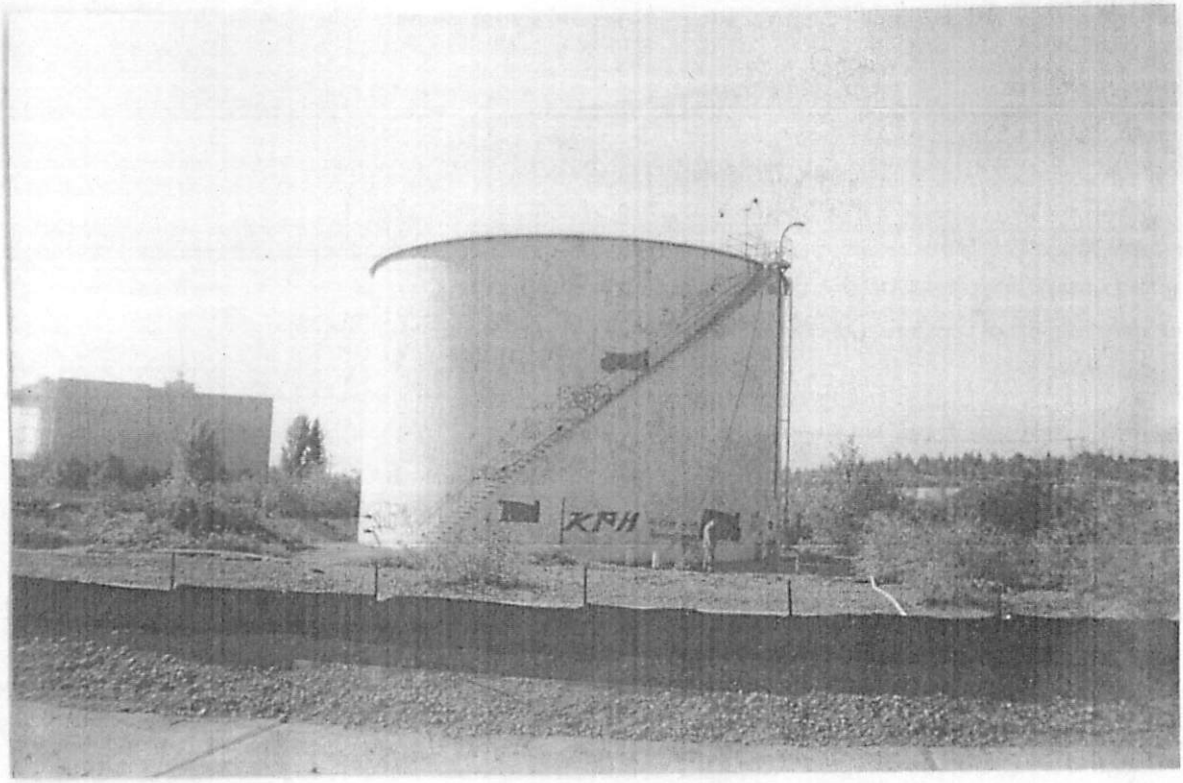
implemented at the site in the summer of 2003. During this visit, Geomatrix, a consultant for RCI Environmental, was performing groundwater elevation measurements and field groundwater quality measurements on 34 groundwater water monitoring wells located inside and outside of a impermeable barrier wall. The barrier wall and associated groundwater treatment system was installed during the summer of 2003 in support of an interim measure to migration of contaminants off site.

I arrived at the facility at approximately 8:15 a.m. and introduced myself to Mr. John Ambrose, the Health and Safety Officer for RCI Environmental. I displayed my credentials and advised Mr. Ambrose that I was here to observe the scheduled groundwater elevation monitoring event. Mr. Ambrose advised me that he was not involved in the groundwater monitoring event but was there to check the groundwater treatment system. Mr. Ambrose stated that I needed to check with the Geomatrix personnel currently on site in regards to the groundwater measurement activities. I asked Mr. Ambrose if I could view the groundwater treatment system. Mr. Ambrose agreed and escorted me into the main building. I observed what appeared to be an operating groundwater treatment system. I observed one monitor located on an influent line which indicated an approximately 11 gpm flow rate. I observed what appeared to be two carbon tanks and 2 bag filters associated with the system. A Programmable Logic Controller (PLC) appeared to be installed but I did not open the front to inspect the internal systems. I observed 3 pressure gauges in the lines of the system, but none of the gauges indicated any pressure. I could hear water moving through the system, but did not open any of the sampling valves to verify flow. I then thanked Mr. Ambrose for showing me the groundwater treatment system and exited the building.

I proceeded south in the direction of the Geomatrix sampling team. I introduced myself and displayed my credentials to Ms. Tasha Grey, field geologist for Geomatrix. Ms. Grey introduced me to her associate, Ms. Sarah Ruston. I advised both that I was there to observe their field groundwater elevation monitoring procedures. Ms. Grey then proceeded to measure wells MW-53 and MW-54. Ms. Grey utilized a Solinst Water Level Meter to conduct the measurements. Ms. Grey explained that the procedure for measurements was to measure the wells located inside the barrier wall first on the outgoing tide, then wait until the tide turned (at roughly 12:30 p.m. the day of the inspection) before measuring the wells outside the barrier wall. I observed Ms. Grey properly using the Solinst meter while measuring wells MW-53 and MW-54. Ms. Grey was properly decontaminating the sampling device between wells. Upon completion of the measurements, Ms. Grey proceeded to wells MW-55 and MW-56 and continued her measurements. During this time, Ms. Ruston was going to the well heads and removing bolted covers and preparing the wells to be monitored. At this time I noticed that a large section of fence was down adjacent slip 6 and that a section of fencing was missing along the eastern border of the site (photo 11 and 12) . I asked Ms. Grey how long the fence had been down and missing. Ms. Grey was not sure and advised me to contact representatives of RCI Environmental for that information. Upon completing he measurements at MW-55 and MW-56, Ms. Grey moved to wells MW-27 and MW 28 and proceeded to measure these wells.

At this time I noticed 4 inch PVC piping on the ground near the large above ground storage tank located on site (photo 1). Upon further inspection, I found two different PVC lines originating from the tank. One line ("Line 1") was connected to a flex hose that went up the side of the tank completely to the top (photo 2 through 4). Line 1 proceeded from the tank in a northwestern direction across a containment berm, at which time it angled 45 degrees and ran directly east into the King County Sewer Lift Station (photo 5 and 6). I observed another portion of missing fence adjacent the lift station (photo 13). The other line ("Line 2") proceeded from near the bottom the tank directly north then turned 90 degrees terminating near the berm. After inspecting Line 2, I proceeded up the stairwell of the tank to the top. At the top, I observed that the flex line associated with Line 1 proceeded down into the tank and into several feet of liquid contained within the tank (photo 7 through 9). The hose was hooked to a submersible pump (photo 9). After observing this I proceeded down the stairs toward the access gate adjacent the Duwamish waterway.

I found that the gate adjacent the Duwamish had recently had a new lock and cable placed on it. I found the cover for the new lock on the ground. From this point I walked the fence line due north to the locations of wells MW-38 and MW-39. At this location I observed micro-purging equipment adjacent the open wells. I then proceeded due east to the main entrance where I met Ms. Grey and Ms. Ruston. I asked Ms. Grey what their procedures for micro-purging were. Ms. Grey stated that they typically continued micro-purging until the field measurements (turbidity, conductivity, pH, temperature, Redox) stabilized and then recorded the results. Ms. Grey also stated that the hydrolab typically used to take these measurements had malfunctioned and they were waiting for a new one to be delivered on site. Near this location I observed that another portion of the fence was missing in the northeast corner of the site. I then told Ms. Grey that it appeared that they were sampling in accordance with protocols approved by the EPA. During the site visit, I had observed several of the monitoring well covers without bolts. I asked Ms. Ruston where the bolts were, assuming that she had removed them and placed them in central location. Ms. Ruston stated that the covers in question did not have any bolts (photo 10). I advised Ms. Ruston that the covers required bolts and that they should be installed immediately. Ms. Ruston stated that she would inform her superiors. I departed the site at 9:45 a.m.



1. Above ground storage tank.

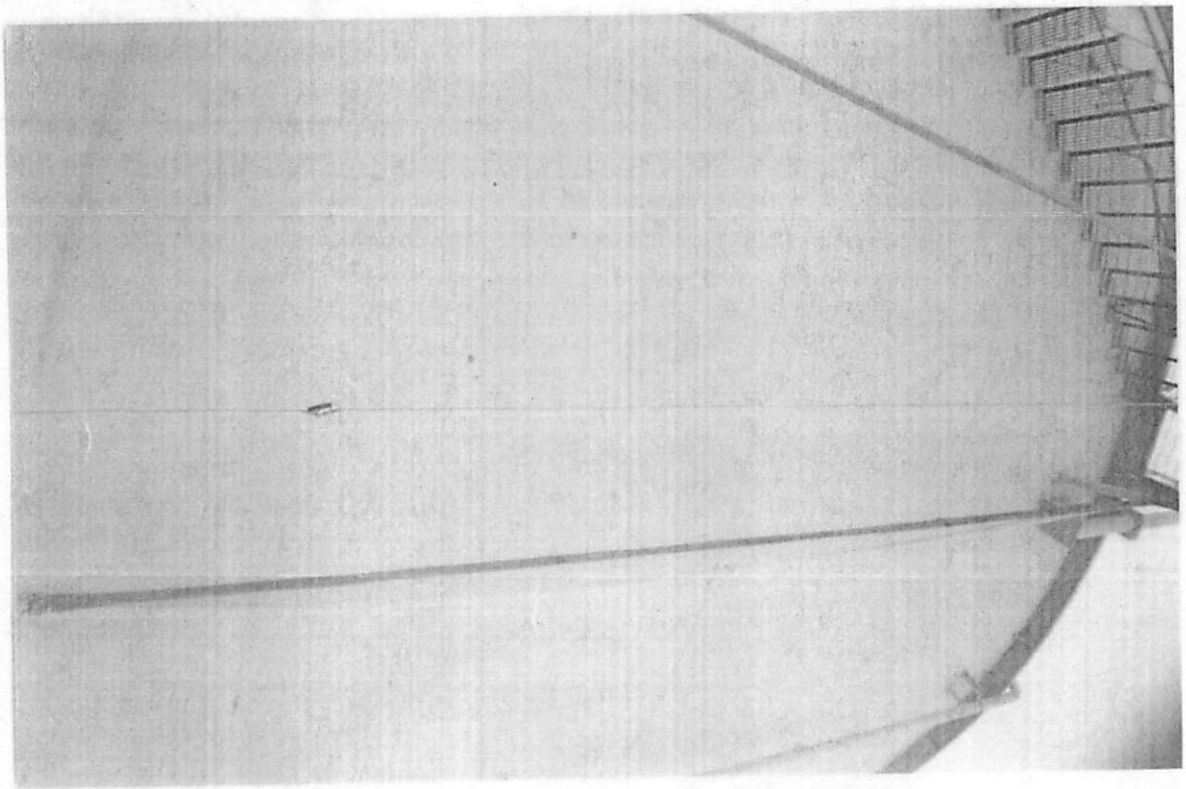


Photo 2. Flexhouse going up and into above ground storage tank.
Photo taken by Shawn Blocker, U.S. EPA
8/17/2004

3. Flexhouse going up and into above ground storage tank.

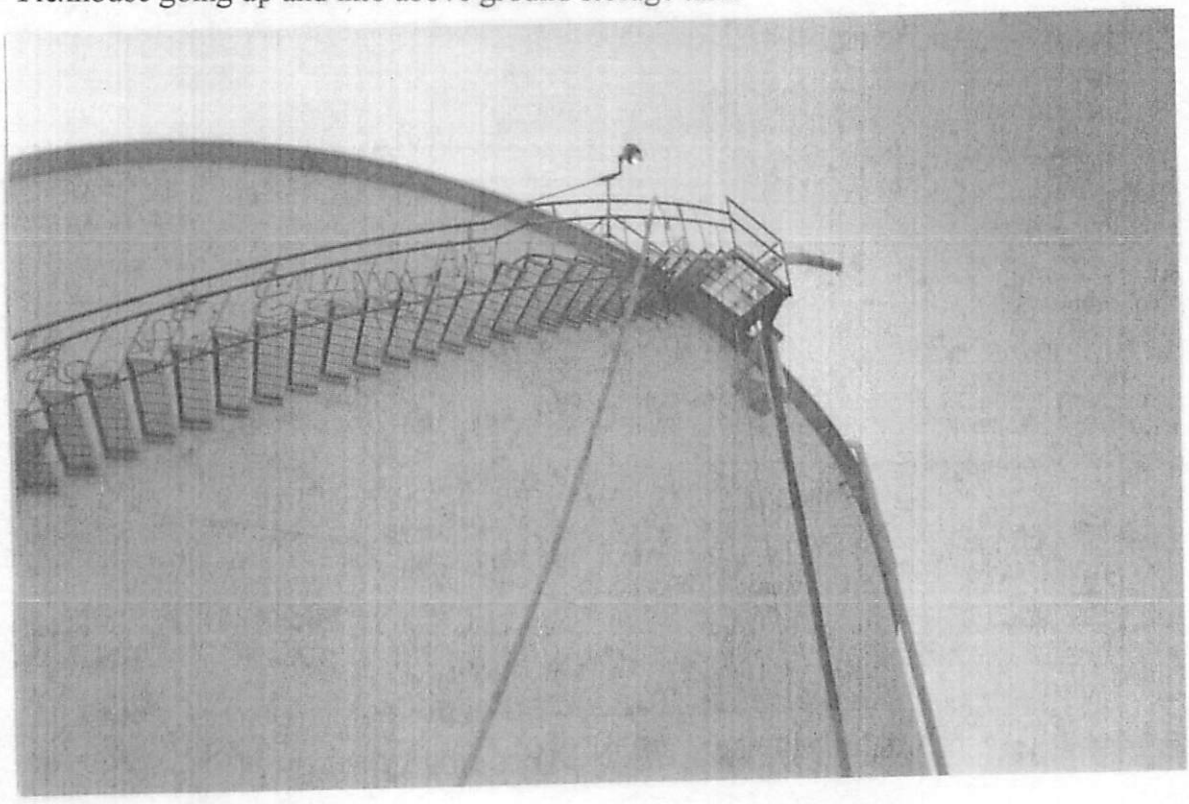
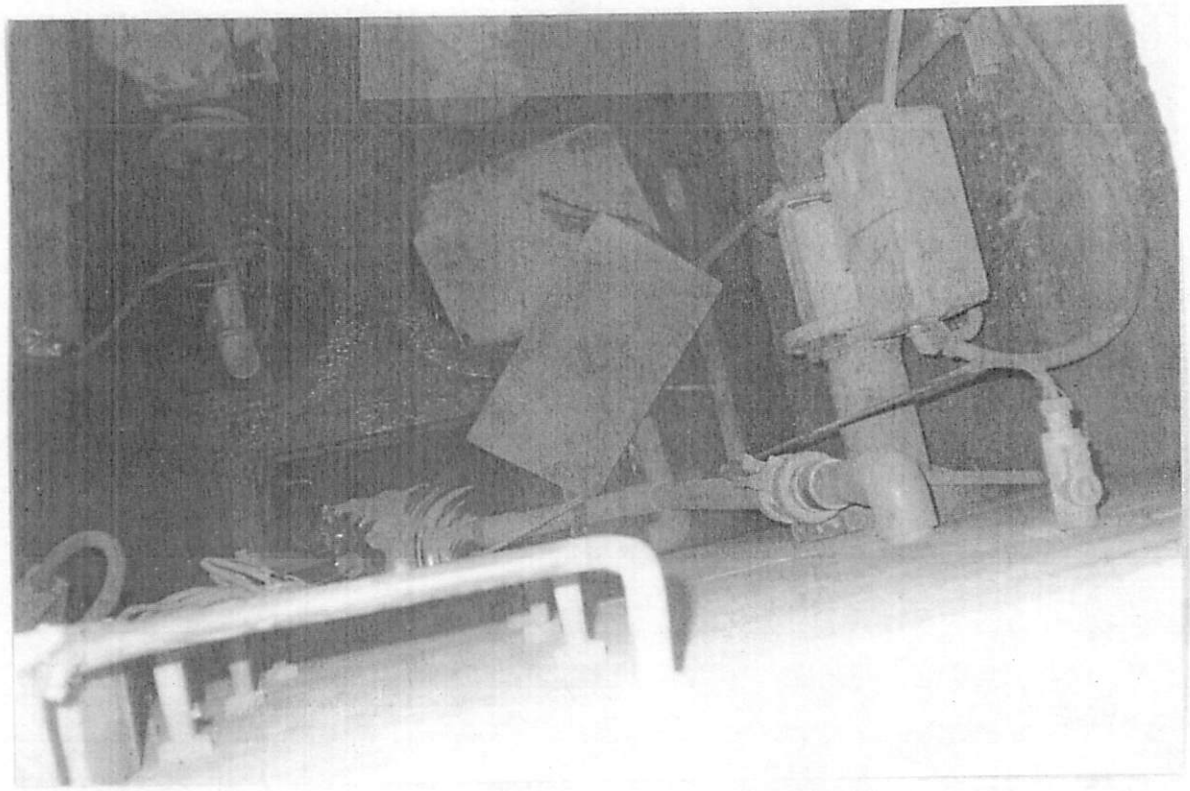
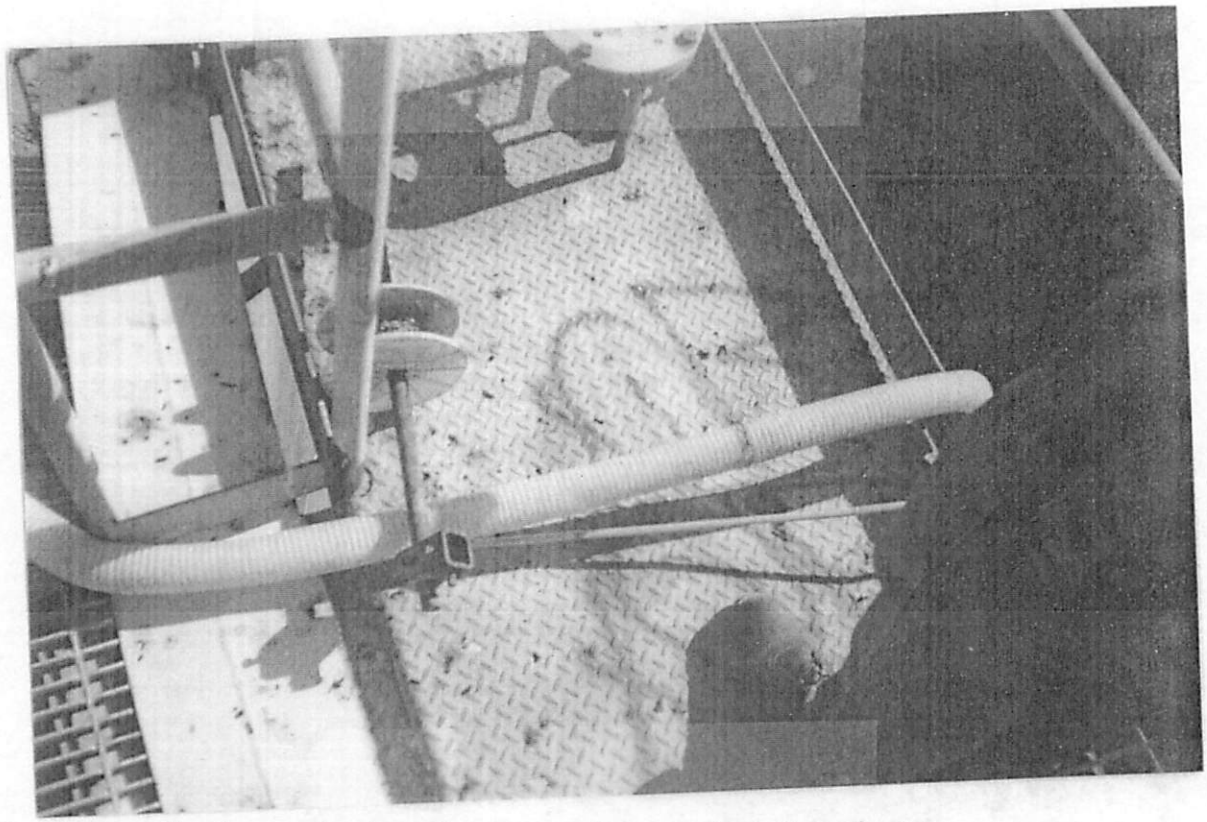


Photo 4. Flexhouse going up and into above ground storage tank.
Photo taken by Shawn Blocker, U.S. EPA
8/17/2004



5. Photo inside King County Sewer Lift Station.

Photo 6. Photo of King County Sewer Lift Station.
Photo taken by Shawn Blocker, U.S. EPA
8/17/2004



7. Photo of flex hose going into above ground storage tank from the top.

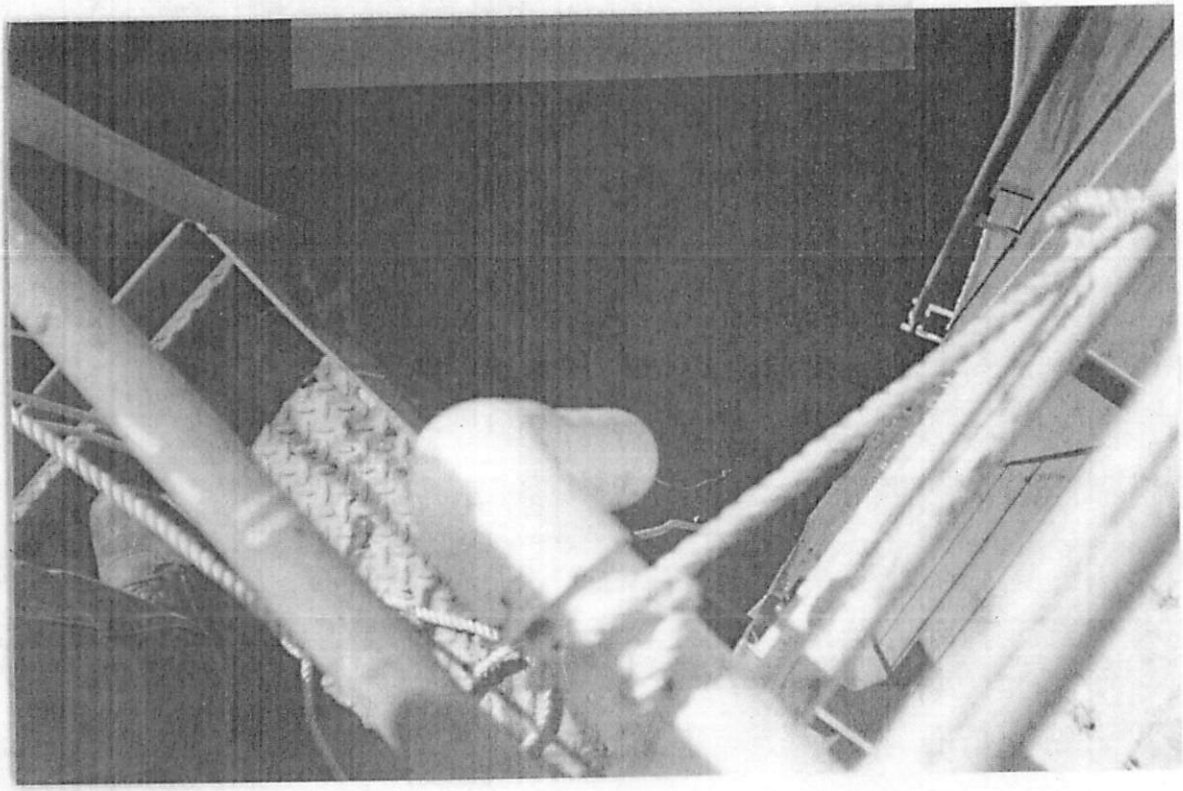
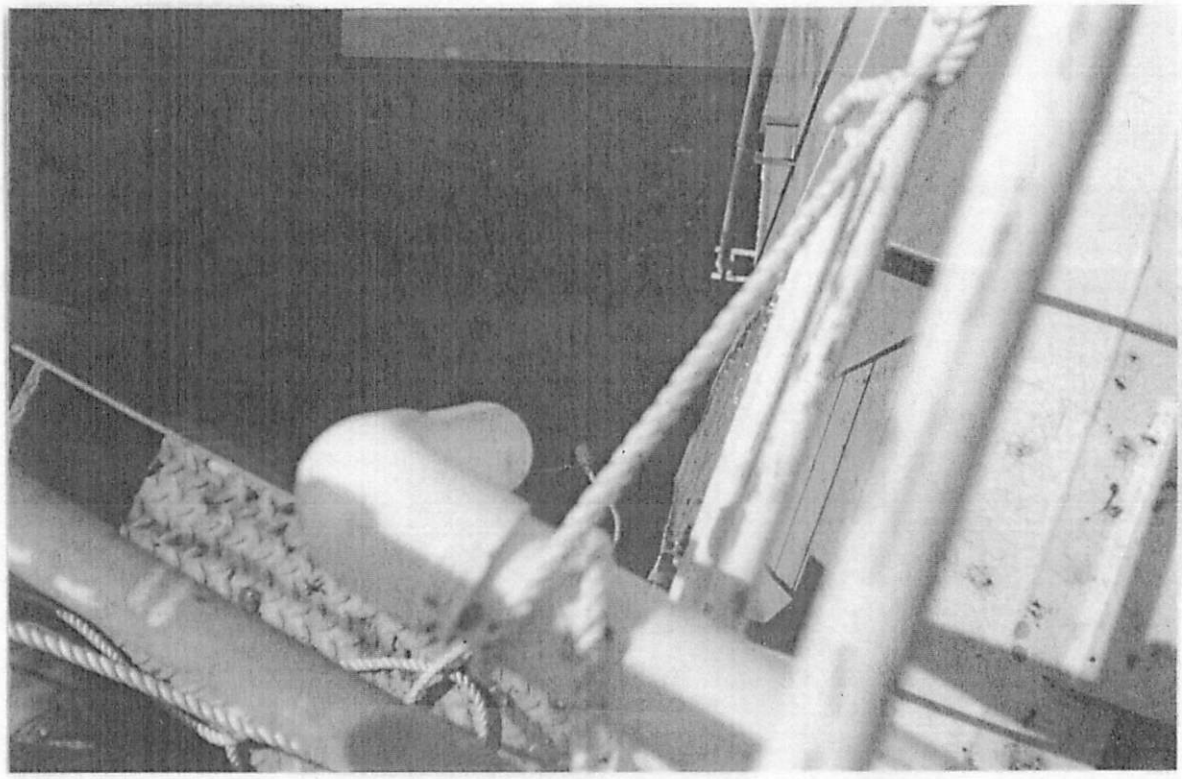


Photo 8. Photo of flex hose going into above ground storage tank from the top..
Photo taken by Shawn Blocker, U.S. EPA
8/17/2004



9. Photo of hose going into above ground storage tank from the top.

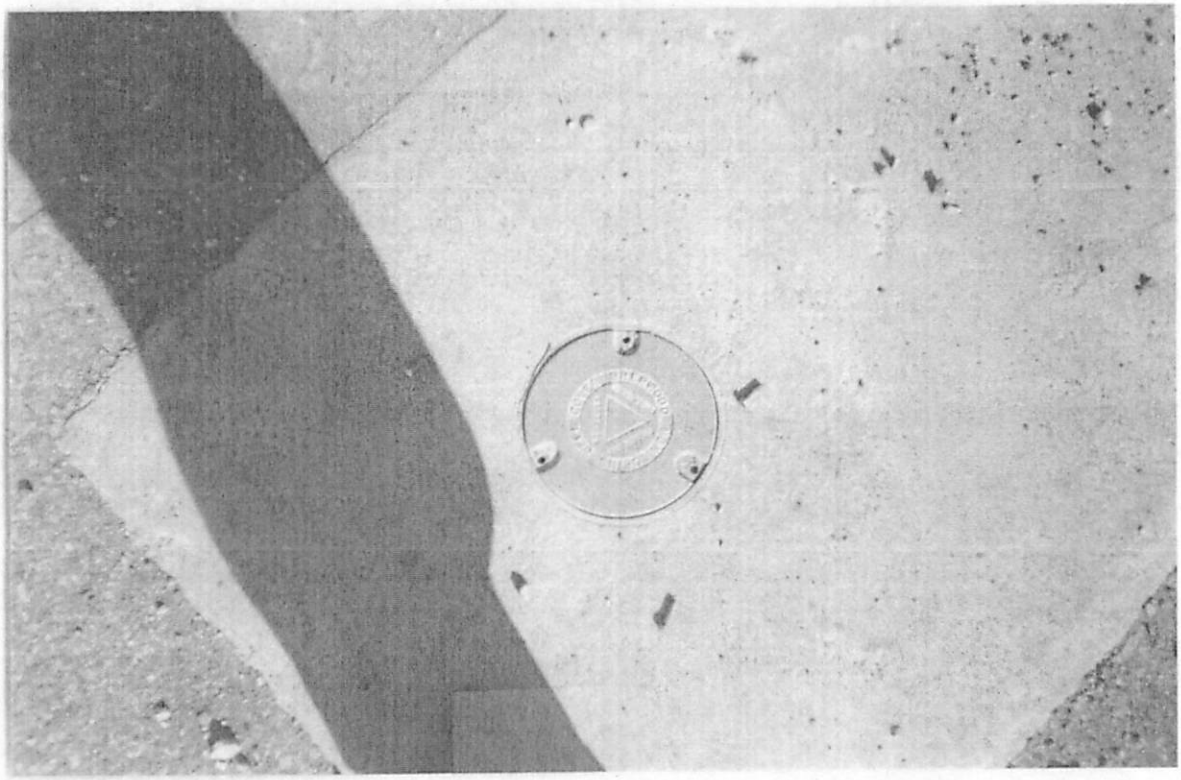
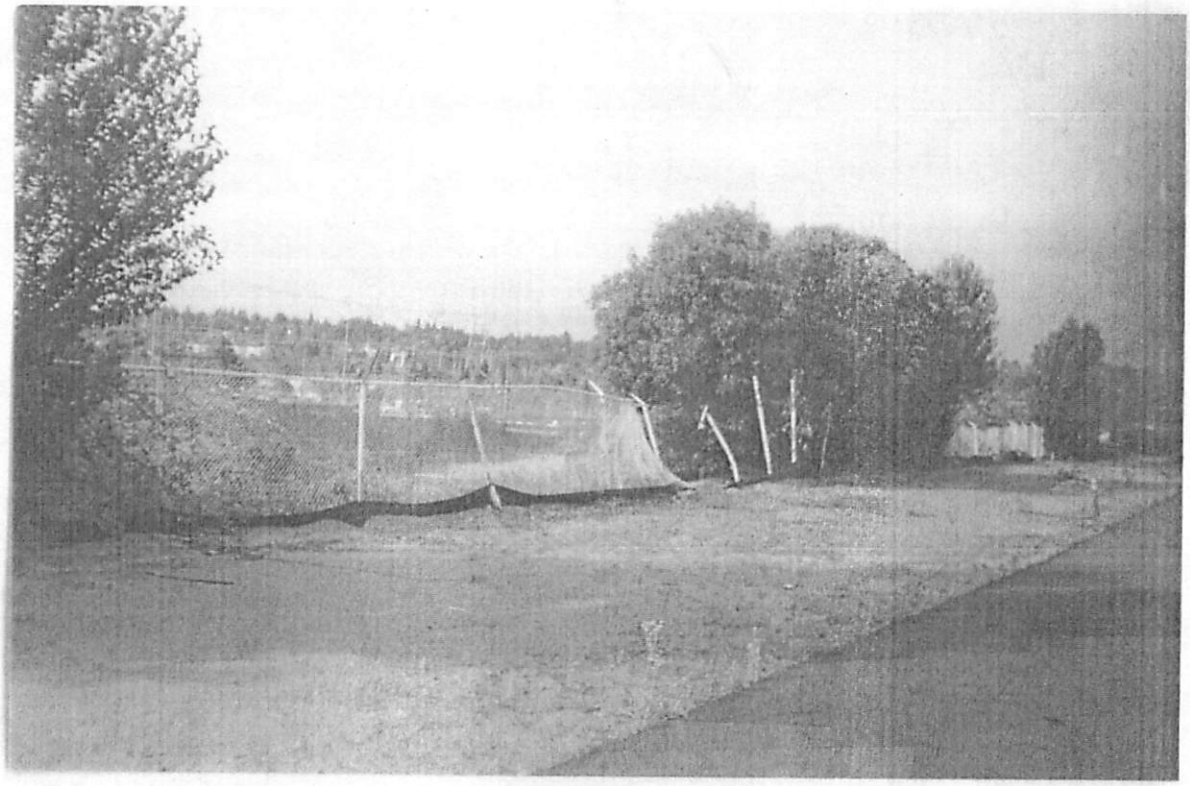


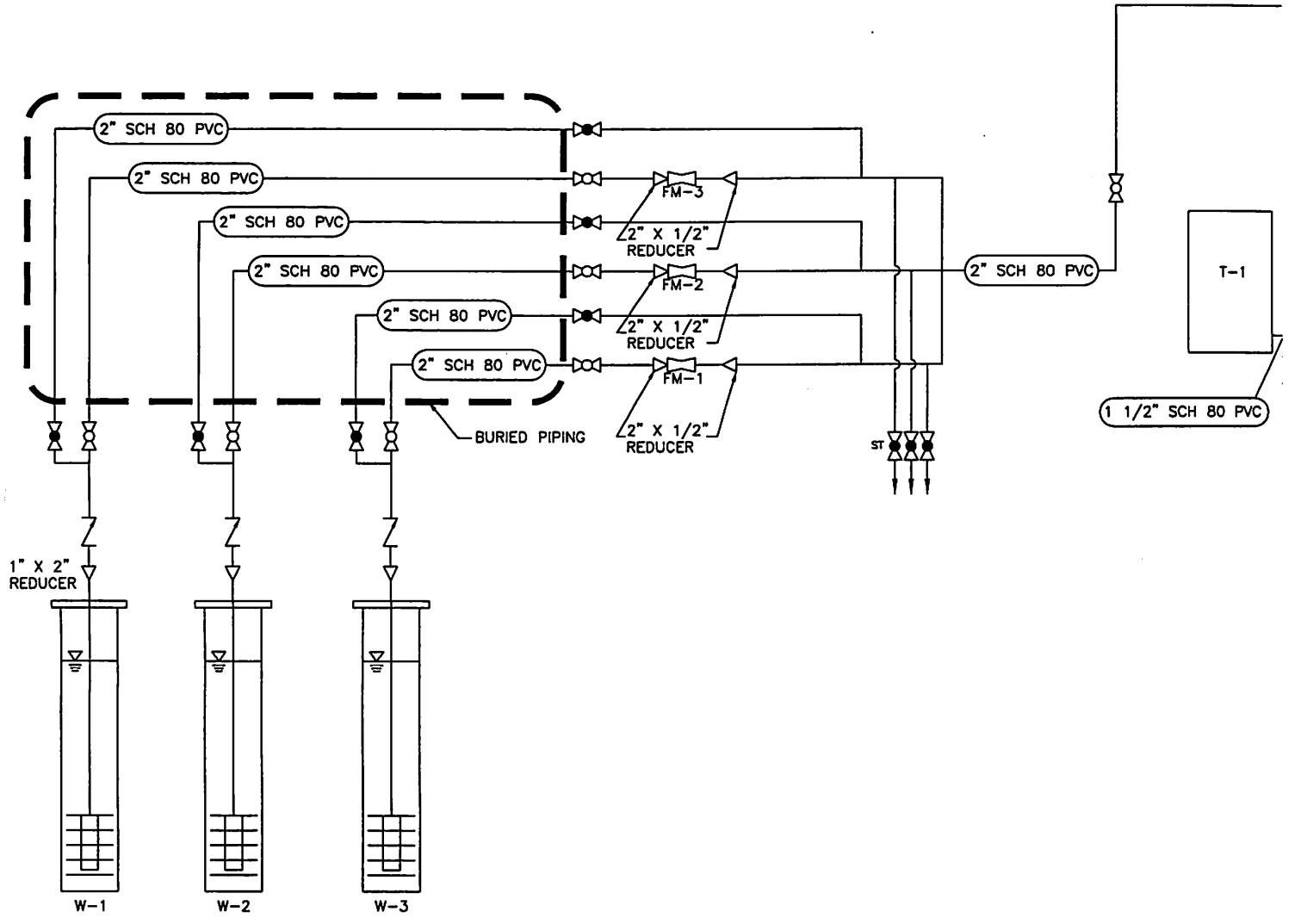
Photo 10. Photo of well cover not properly bolted down.
Photo taken by Shawn Blocker, U.S. EPA
8/17/2004



11. Missing fence along slip 6.

Photo 12. Missing fence in southeast corner of site.
Photo taken by Shawn Blocker, U.S. EPA
8/17/2004

Photo 13. Missing fence near lift station.
Photo taken by Shawn Blocker, U.S. EPA
8/17/2004

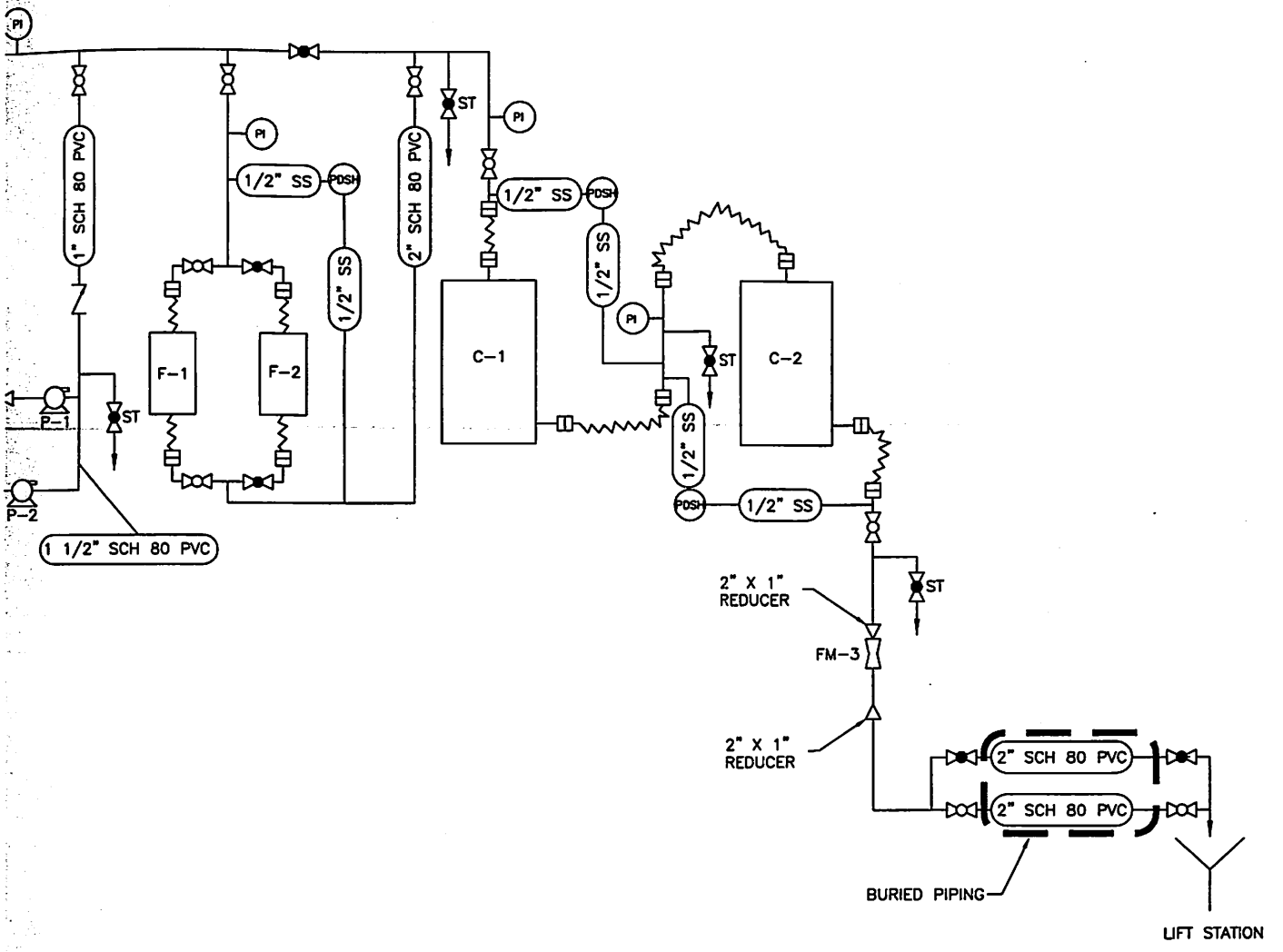


MAJOR EQUIPMENT

W-1, W-2, W-3:	WELL NOS. 1, 2 & 3, WITH SUBMERSIBLE PUMPS.
T-1:	PURGE/SUMP STATION
F-1:	BAG FILTER
C-1, C-2:	GRANULAR ACTIVATED CARBON CANISTERS.
P-1, P-2:	CENTRIFUGAL PUMPS.

CHECK VALVE
BALL VALVE,
BALL VALVE,
FM-1 FLOWMETER
REDUCER

I:\Project\RCI Former Rhone Poulenc Site - 8769\GW Pretreatment System\GW Pretreatment Plant Upgrade\14-PFD.dwg



LEGEND

ALLY OPEN
ALLY CLOSED

FLEXIBLE PIPING
FIELD MOUNTED
QUICK CONNECT COUPLING
PUMP P-1

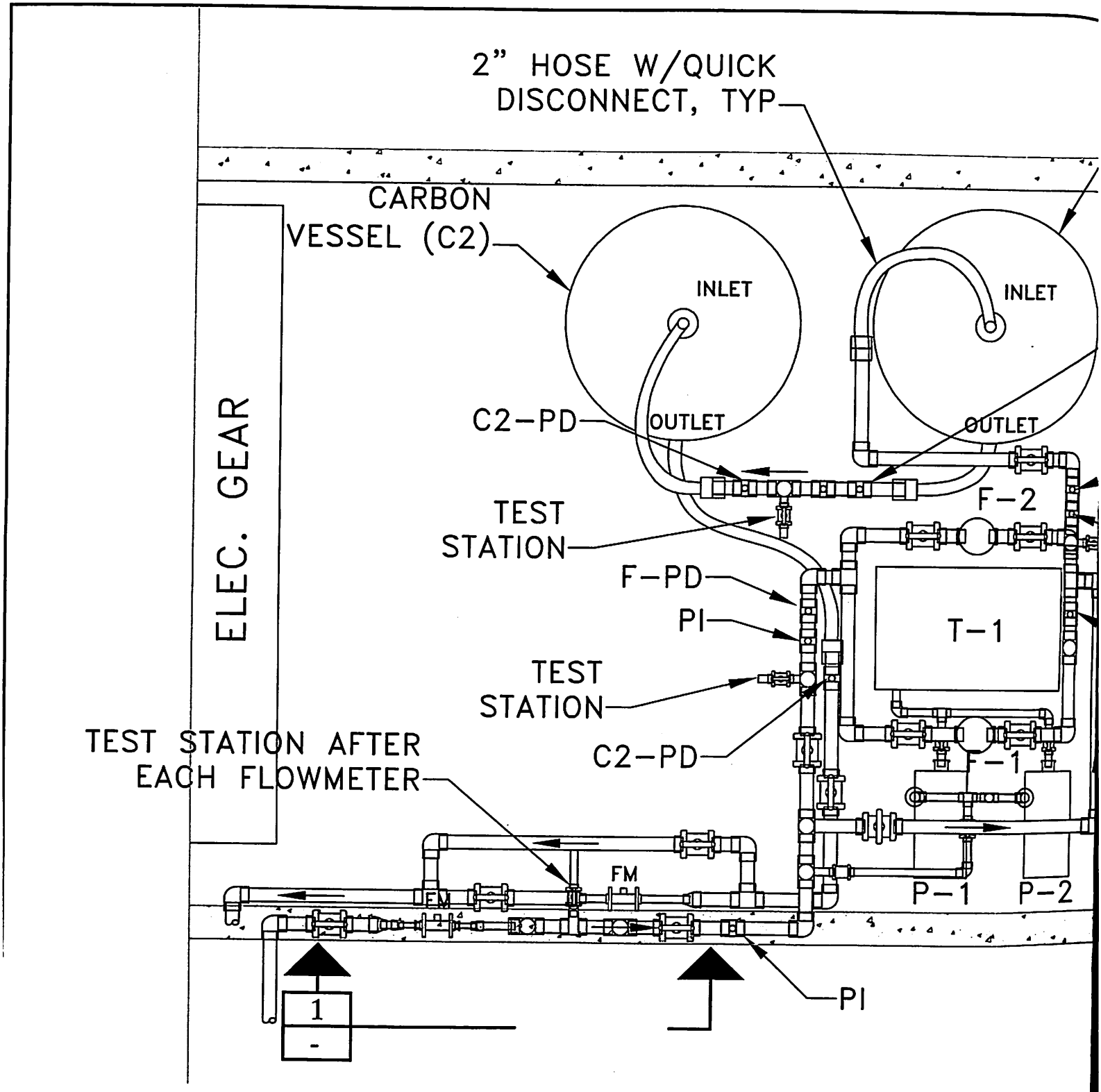
ABBREVIATIONS

FI	FLOW INDICATOR
PI	PRESSURE INDICATOR
ST	SAMPLE TAP
PDSH	PRESSURE DIFFERENTIAL SWITCH-HIGH

PROCESS FLOW DIAGRAM
GROUNDWATER RECOVERY SYSTEM
Former Rhone Poulenc Facility
Tukwila Washington

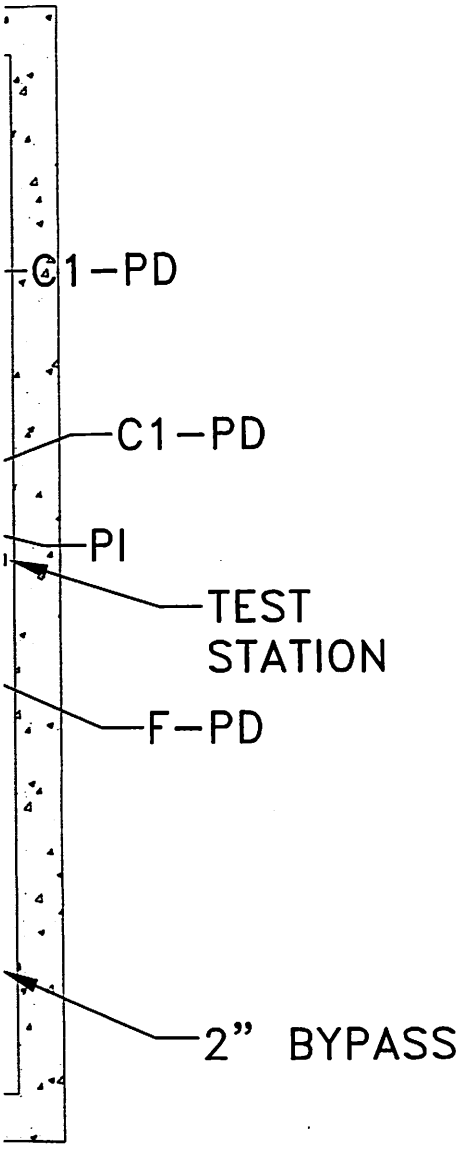
GEOMATRIX

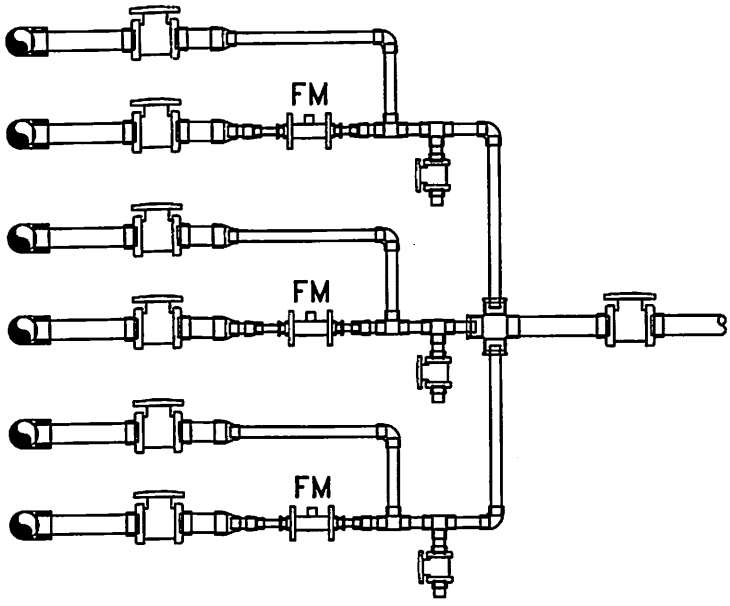
Project No.	Figure
8769	3



PLAN

RHONE POULNC LAYOUT
SCALE:1/2"=1'-0"





SECTION
FLOWMETERS
SCALE: 1/2" = 1'-0"

1

PI =PRESSURE INDICATOR
PD =PRESSURE DIFFERENTIAL
F =FILTER
FM =FLOW METER
T =TANK
P =PUMP

REVISION

-	-

JOB 623E NW CONTAINER PROPERTIES
RHONE POULNC
CHEMICAL PIPING PLAN

RCI
GENERAL CONTRACTORS AND ENGINEERS
1216 140TH AVE. CT. E.
SUMNER, WA 98390

APPROVED:
CHECKED :
DRAWN :DJB
DATE:

M-1